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Blue Jay

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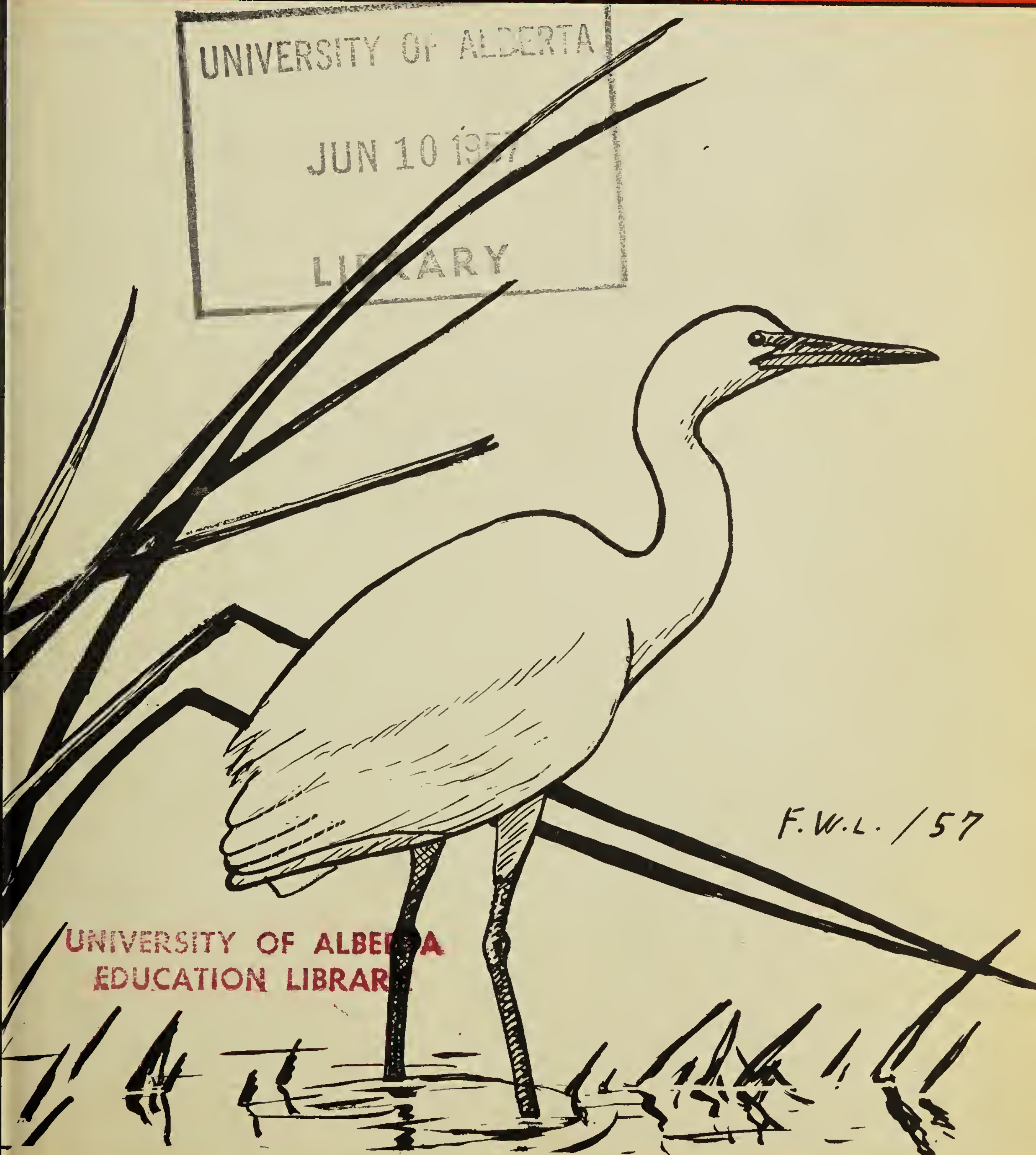

UNIVERSITY OF ALBERTA
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ature Little Blue Heron F. W. Lahrman

Published quarterly by
THE SASKATCHEWAN NATURAL HISTORY SOCIETY

Membership, including **Blue Jay,** one dollar yearly

Blue Jay Chatter

Good news comes from Moose Jaw where a new natural history society has been formed. One enthusiastic naturalist, Mrs. F. Taylor, arrived there from Ottawa last fall, and found people who would co-operate in the formation of the Moose Jaw Natural History Society. Mr. John Walker is the president. We are hoping to meet some of the Moose Jaw members at our Summer Meeting in the Cypress Hills which is closer to Moose Jaw than it is to any other organized group in Saskatchewan.

The Summer Meeting and the Annual Meeting in October give us the only opportunities we have of seeing each other and making new friends. Thi is as important a reason for meeting in the Cyprus Hills as learning something new of the plants and animals of the area. We hope that some member will come from Alberta.

We have good news from Ontario, too, where legislation has been passe protecting all hawks and owls except when it can be proved that they ar actually doing damage. Any farmer may kill birds preying on his domesti or confined birds, but no one may molest hawks or owls without such pro vocation. This also means that pole traps may not be used, for many innocen birds may alight on the pole. We are convinced that by not protecting a hawks and owls, we are endangering all hawks and owls, for few people ca recognize the various rather confusing species. We agree with the idea expressed by members of the Edmonton Bird Club in their brief against re peal of Alberta Protection Laws. They felt that if it was generally agree that any hawk or owl was too numerous, and was doing damage, "contr measures should be exercised, but only by competent field men and withi the limits of these predation areas." (**Blue Jay**, Vol. XIV, No. 1, March 1956

When the Saskatchewan Game Laws were being revised a year ago th Saskatchewan Natural History Society decided at an executive meeting Apr 23, 1956, to request the Game Commissioner to include the provision th **all hawks, owls, and eagles be protected except that a farmer or landown may destroy hawks or owls on the land he owns or occupies, when they a doing real damage to poultry or other domesticated animals.** This request h been turned down. Members of our society who believe in such legislatic should send in all the evidence they can in support of protection. If v obtain adequate information we can support a resolution for a protection la and pass it at our annual meeting.

The Saskatchewan Fish and Game League is to be congratulated f putting less emphasis on predator control and more on such constructive pr jects as the improvement of habitat. There has been a marked reduction bo in money spent in the predator control campaign and in the number of bir killed. We are happy to learn that only a limited number of schools will asked to help in predator control. Money is to be spent instead in maintai ing and developing wildlife habitat (Wildlife Crusader, III, 2, March 195

We think that our society, too, should be more active in conservati projects. If you notice examples of either abuses of our wildlife or of go conservation practices we should like to hear of them. Mr. Dickson tells about a fine conservation project (page 72). We have also from Mr. Dicks a longer article on Forestry Conservation. This is written especially for c series of conservation inserts.

We are now in the midst of an active membership drive under the en getic leadership of Dr. Stuart Houston of Yorkton. We hope that every me ber will do his part, and in a special effort to get others interested we inserting in this issue a membership blank for your use. We need the n member that each one of you can bring into the society, in order to supp the enlarged **Blue Jay** which was begun with the first issue of 1957.

We take pleasure in welcoming hundreds of new members. To the n members, as well as to the old, I should like to say again that the **Blue** is what you make it. You are urged to send in material so that we can sel t a variety of interesting items for each issue.

The Blue Jay

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Membership — $1.00

Of Fish and Things

By DOROTHY T. HOFFOS, Rosetown, Sask.
Illustrated by MOLLIE LAWRENCE, Regina

"Mom, what is an ichthyologist?" enquired my young son, spelling th word out slowly.

"An ichthyologist? Why, he's an itchy fisherman," I answered, with al the sang-froid I was capable of. And why not—I had been married to one fo twenty years! Although I actually have no aversion to ichthyology, which i merely a form of fish idolatry, neither am I an ichthyophile or lover of fish

Wordsworth wrote,

> "The world is too much with us: late and soon,
> Getting and spending, we lay waste our powers:
> Little we see in nature that is ours."

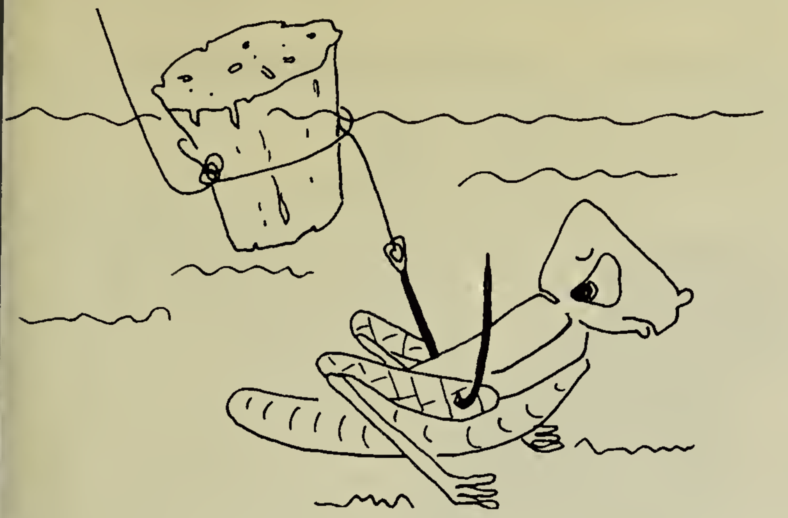
These lines do not apply to my ichthyologist husband. He does not "lay wast his powers," but several times a year he likes to do what could be calle "communing" with nature. He agrees with Henry Thoreau, America's grea poet naturalist, who said in 1845:

> "In all nature quietude is essential to growth. Man must sneal into this life a few of the things we're planning for the nex This pilfering of a little joyous living will enrich our hearts.

To some twenty or thirty million fishermen throughout America—not that I said fishermen—this pilfering of a little "joyous living" merely mean "Let's go fishing." Isaac Walton, British naturalist and author, expresse much the same thought in "The Compleat Angler" (1653) which was originally titled "Contemplative Man's Recreation."

Scientists tell us that man and the fishes both came originally out of th same slime. Although I sometimes doubt the wisdom of both in ever leavin it, I was a bit taken aback to discover that the earliest fish had as thei ancestors the lowly worms. Definitely, there is food for thought here—though based on scientific fact, too, because the above information was gleaned from AMERICANA (topic; ichthyology, volume 14).

There was a time when worms playe a very important part in the life o every fisherman. Many a fine fish ha been caught without the aid of artificia lure or spinning type of casting rod Although my husband blushes wit shame at the mere mention of it, can recall heavenly hours fishing wit an old willow pole, fine cord, cor from an old bottle, rusty old tin washe and a hook with a worm or grasshoppe impaled upon it! 'Tis true, it was years ago; the place was the old Saskatchewan River, and the inevitable catch was the lowly chub with the od gold-eye thrown in. Even though these are not the most fashionable fish an



albeit they were not caught with the most expensive equipment, fried crisp and brown over a camp fire with a pot of scalding coffee they made a delectable dish!

Everyone enjoyed those fishing trips of the early years. While Father, never a loquacious man, mutely communed with the fishes, Mother snatched a few precious hours of reading and the three young children, salt shakers in hand, tiptoed through the underbrush ready to catch bush rabbits by sprinkling salt on their tails.

However, the old order changed and the trek northward began. It has been exhilarating to explore the chains of untouched lakes hidden in forest of spruce and fir—inaccessible enough to become a challenge to modern man. Better yet, it has been good to discover that they abound in fish. The Department of Natural Resources Conservation Officers do not exaggerate about these waters—they are an ichthyologist's dream!

So far as the fisherman is concerned, spring begins when the fish rush madly up the rivers to spawn. Out come the fishing gear, the tents, the sleeping equipment, and the food supplies, and the trip northward begins. Babies may be born, businesses may falter, but nothing must interfere with this spring rendezvous.

Modern man, like his paleolithic ancestor, is out to conquer the wilderness and haul home his loot—pounds of it. He does, too, as all prairie fishwives will tell you. He lays them at her feet, heads and innards intact, with the air of a conquering hero—and then hies himself off to bed! Is it acts like these that have caused the word "fishwife" to acquire such blatant meaning?

GO NORTH, YOUNG MAN, TO FISH!

Although I have not gone fishing since my husband roared at me for feeding his minnow bait to the gulls, I still cling to my childhood love of sand, water, trees and birds. So, when I am privileged to accompany my husband on his fishing trips, I spend treasured joyous hours of living. I love the small northern Indian outposts where the native folk gather. I love sleeping in the great outdoors where the wind whispers softly or rushes with a mighty roar through the treetops. I love the sound of the water on the shore, the wild laughing cry of the loon. Here there is no cacophony. All nature seems in tune, and all's right with my world. Would that it could remain so!

The Little Blue Heron in Saskatchewa

By Dr. STUART HOUSTON, Yorkton

Joyce Gunn reported four Little Blue Herons at Good Spirit Lake, northwest of Yorkton, on May 24, 1956. This constituted the first sight record of this species for Saskatchewan. (BLUE JAY, XIV, Sept. 1956, p. 90).

On Sept. 9, 1956, Mr. and Mrs. W. J. McDonald and Betty McDonald of Yorkton reported a white bird resembling an egret, wading in the marsh just east of Number 9 Highway at Crescent Lake, about 16 miles south of Yorkton. They noted it again on Sept. 14, when it was also seen by Cliff Shaw of Yorkton and B. W. Cartwright, chief Naturalist of Ducks Unlimited. On Sept. 15, it was seen by Mary Houston. On Sept 16, Stuart and Mary Houston watched it for a total of five hours, and good views were obtained with 7x and 10x binoculars at 20 yards and with a 40x telescope at greater distances. Several photographs were taken with a borrowed telephoto lens.

The bird was definitely smaller than the bitterns which would land beside it. The feet and legs were a greyish green. There was no yellow on the toes. The bill was bluish grey and black at the tip. The plumage was uniformly white, with no bluish or buff. This could only be the juvenile plumage of the Little Blue Heron. Dr. R. W. Nero of the Saskatchewan Museum of Natural History
phoned, and he came up and obs
ed the bird but did not collect i
was then absent until Sept. 19, w
it was again reported by the
Donalds. On Sept. 20 it was a
seen by the Houstons. It was
seen on Sept. 21 by Mary Hous

Pough, in the AUDUBON B
GUIDE, states: "In inland fr
water marshes of the South the L
Blue is generally the commo
heron. . . . After the breeding se
it wanders north in greater num
than any other southern heron ex
the egret. Most individuals enc
tered in the North are the p
white young of the year; as a re
they are often mistaken for e
or snowy egrets."

These exotic southern birds a
welcome addition to the Saskat
wan bird list. Saskatchewan
watchers should be on the look
for the American Egret, Snowy E
and Little Blue Heron. If the tr
continues, who knows but that
Green Heron and Cattle Egret
yet be seen within our borders?

EDITOR'S NOTE: The President has p
on to us an observation from Mr.
McLellan, Arcola, dated Aug. 10, 1956.
McLellan's note reads, "A pair of Little
Herons (*Florida caerulea*) are nesting
but I have not found the nest. I am
there is a group of 20 or more abou
miles north of Kisbey. They have not
viously been seen here."

Kodachrome telephoto by Dr. S. H

IMMATURE LITTLE BLUE HERON

Further Observations of Starlings in Western Canada

Photo by F. W. Lahrman.

In the March 1957 BLUE JAY Dr. tuart Houston reviewed his records f the European Starling for the orkton area, and the Editor asked or records from other members of he society. The response to this request has been good, and information s now being sent to M. T. Myres of he University of British Columbia vho is making a special study of the tarling in Western Canada.

Many people in Western Canada ave not yet seen Starlings in their istrict, and there are still people, s one of our members said in writing s, "who won't believe Starlings are nything but Blackbirds!" The Star- ng does superficially resemble the ed-wing or Brewer's Blackbird, be- ause it is a **black** bird, however, it s easily distinguished from them by s short tail. Ed Brooman tells of omeone having referred jokingly to he Starling as a "bob-tailed black- ird," and anyone can recognize it e remembering that description. The light of Starlings is also characteris- ic. Ed Brooman says their flight re- ninds him of Bohemian Waxwings. he silhouette of the wing is similar nd both birds are fast and manoeu- re with ease.

The extension of range of the Star- ng in Western Canada is regretted by many bird-lovers. The Starling is objected to, principally because it takes over nesting holes and bird houses used by native birds, such as Flickers and Bluebirds. Lloyd Lohr points out that it is because they nest earlier that Starlings crowd out species using similar nesting sites. Mrs. Wolters proposes a novel solution to this problem. To have Bluebirds and other desirable birds around the grounds, she suggests putting up nests farther away from Starlings. "Not that I want to encourage them to increase," she explains, "but just to have more peace in the bird world in my yard."

Another member, Mr. S. O. Jordheim of White Bear, comes to the defence of the Starling. "From my own observations," he writes, "I find the Starling rather interesting, although he has a bad name. The birds that have been here have never interfered with other birds. The male is the best imitator I have ever heard. He can do calls such as a cackling hen, Magpie, Robin, Curlew, Killdeer, Gull, Blackbird, cat, and Swainson's Hawk to perfection, and will often run through all these calls, giving a few of each. While the Starling is not a handsome bird, it is a swift, skilful flyer and a very industrious insect hunter. I can well understand the dislike for this bird in cities and towns, but in the open country and on farms it should prove beneficial, provided it does not become too plentiful." W. J. Neil also reports that Starlings observed at Scott, live chiefly on grain and insects and don't seem to do any harm.

The possibility that, after the initial influx, Starlings in country areas may not increase to an undesirable extent is suggested by observations made by Dr. G. F. Ledingham since 1940 of the Starling population on the farm six miles west of Moose Jaw. In 1940 Dr. Ledingham first suspected that Starlings were nesting at the farm, and in 1941 he located the first nest in an old willow in a hole previously used by a Flicker. The number of Starlings at the farm increased startlingly, and by the fall of 1942 a flock of 50-60 was coming in to roost each evening. Since 1942, however, Dr. Ledingham has not seen evening roostings there, and although Starlings still nest on the farm the number has not increased to more than three pair nesting each year.

The following observations of members who have offered information helps to define the range of the Starling in Western Canada and to describe its habits within this range.

ROCANVILLE — Mrs. D. Sutton has no personal records, but has had a number of reports of Starlings. One was reported wintering with House Sparrows (1956-57).

GERALD—Lad. Martinovsky saw his first Starlings about three years ago at the farm of Pete Arnason, three miles east of **TANTALLON.** They were nesting in the ventilator of a big barn. Mr. Arnason believes Starlings came to his farm about ten years ago, and have nested each year, some of them in old woodpecker holes in trees. At times there have been from 15-20, and this year some have remained during the winter, although they do not always stay. At **GERALD** this winter, Mr. Martinovsky reports five Starlings.

HAZELCLIFFE—On April 2, 1957, **J. M. Provick** had three Starlings light on his tall maples, the first he has seen to recognize. One was shot by his brother in the spring, 1952.

YORKTON—Dr. Stuart Houston asks, "Are Starlings migratory?" N Starlings were seen at Yorkton a winter. A flock of 36 was seen o March 25, and they have been see regularly since. Do some of them g elsewhere for the winter?

ITUNA—H. M. Rayner saw h first Starlings at Ituna in 19 (BLUE JAY, Vol. IX, No. 3, Sep 1951) but has not seen one the since.

PUNNICHY—Five (3 ♂, 2 ♀ seen by **James Luthi** in April, 1956, the home of a neighbour who repor ed the birds wintering with Spa rows.

TISDALE—K. E. Baines has ob served Starlings in the area for seve or eight years. A flock of 8-15 ha been seen consistently through ear spring and summer at deserted far buildings two miles N.W. of Tisdal Since they remain through the bree ing season, Mr. Baines assumes th raise young, although he has no r cord of nests or immature birds. the fall of 1955 a flock of sever thousand Starlings was seen at t Dog Hide Creek one mile north Tisdale. Mr. Baines has also se Starlings in the marshes north a south of **NAISBERRY** and occasion birds far out over the marsh of **LE LAKE.** On a recent trip from Sask toon to Tisdale (April 7, 1957) saw Starlings twice, two perching fence posts near **SASKATOON,** a a flock of 15 or so flying up from t gravel on the roadside near **ME FORT.**

Ed Brooman of Prince Albert s his first Starlings May, 1940 at **D FOE,** three adults and two nests (o in an old fence post). Fred Bard, whom Mr. Brooman reported t record, considered it to be the m northernly record for Saskatchew at the time. On May 26, 1941, Brooman saw a nest of Starlings **LESTOCK**; On May 22, 1942, he s Starlings at **DUCK LAKE.** Since th Mr. Brooman has seen them **PRINCE ALBERT,** the largest gro seen being a flock of about 30 o served about four years ago. Ho ever, Starlings are still uncomm in the area, to be found chie around elevators or stock yards. Brooman does not recall seeing in winter.

SCOTT—First seen by **W. J. N** in 1944 when a pair nested in the of a barn. One was shot for posit ntification. Since then, Starlings ve been quite numerous in the ing and summer, but not noticed r than December. Flocks arrive h Spring, and they nest in the in elevators or barns at the Experimental Farm. These records are pfully supplemented by the winter ords of **Frank Rouse** kept until 0 when he left the Experimental ation at Scott. Mr. Rouse gives se dates: March 21, Nov. 4, 14, 28, 7; Jan. 2, 8, 12, Feb. 2, 5, 14, April 4, 5, Oct. 12, Nov. 7, 14, 21, Dec. 1948; March 10, 15, Oct. 9, 12, 13, 9; Jan. 17, March 22, April 9, 16, 0.

TRUAN—Wm. E. Jasper reports t the first pair of Starlings appared April 20, 1942, staying to nest one of the barn windows. Since en, he has seen them every year, th up to fifty or more in a flock. ny have nested. They were first en in following years on these tes: April 2, 1943; April 1, 1944; rch 12, 1945; Jan. 12, 1946; Jan. 1947; Jan. 2, 1948; March 14, 1949; ril 3, 1950; March 25, 1951; March , 1952; Jan. 1, 1953; March 11, 1954; n. 19, 1955; March 18, 1956; March 1957. Interesting nesting dates are o given: Starlings building nest ril 24, 1951; building nest in barn t April 11, 1952; building nest ril 2, 1953 (young hatched June .

BLADWORTH—P. Lawrence Bec's first record 1947: Starling nestg in an old woodpecker hole in e side of the boxed-in eaves of the hool. A pair nested in 1954 in the ntilator of the Beckie barn, and in 55 in a Flicker hole in a telephone le. Starlings now nest every year the grain elevators at Bladworth. r. Beckie does not believe that they nter; he gives the folowing early ring arrival dates—April 13, 1947, ril 9, 1948, April 6, 1950, March , 1951, April 14, 1952, March 25, 53, April 8, 1954, March 30, 1956.

BRORA—Doug Gilroy first noted arlings on his farm in the fall of 42. His first nesting record is for ne, 1943, when Starlings nested a flicker hole in an elm tree. See cture taken June 23, 1943. Since at time, Starlings have been at e farm permanently, a few individls usually being seen during the inter. In Jan., 1951, several dead rds were picked up in the hay loft.

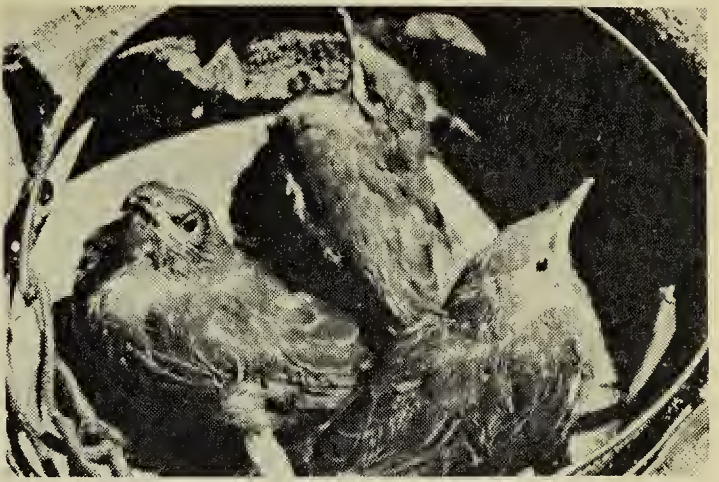


Photo by Doug Gilroy
Young Starlings, June 23, 1943

SWIFT CURRENT — Genevieve Begg tells of 12 Starlings she watched this winter disputing with a large flock of Bohemian Waxwings, that visited her garden for several days, the fruit of the Russian Olives and Mountain Ash.

WHITE BEAR—S. O. Jordheim first noted Starlings at the Shaw's ranch on the north bank of the South Saskatchewan River, about five winters ago. The last two summers a pair have nested in a bird house on his farm two miles north of Shaw's ranch. In the fall of 1955, a flock of about 200 birds fed there and farther north, roosting at the river or in the river breaks.

BRACKEN—Mrs. Laura Wright's first record April 2, 1957; but she had had previous reports from a neighbour, of Starlings at his place in 1956.

The BLUE JAY files also have records of Starlings first seen by **Arthur Ward** at **BURNHAM** in 1947 (BLUE Jay, Vol. V, No. 2, March, 1947), by **M. G. Street** at **NIPAWIN** in 1943 (BLUE JAY, Vol. I, No. 3, June, 1943), and by **C. St. A. Nixon** at **LINTLAW** in 1952 (BLUE JAY, Vol. X, No. 2, June, 1952.)

TOLLAND, ALTA.—First seen by **Mrs. O. L. Wolters** four or five years ago, quite common now in the area, where every farmstead has from seven to 20, "most noticeable early in spring before other birds are back, and in fall when there are huge flocks." Mrs. Wolters believes they do not winter. Early spring arrival March 19, 1957 (five days before the first Crow).

PENHOLD, ALTA.—Mrs. R. A. SCOULAR reports Starlings first noted in 1948 or 1949, very plentiful in 1956. They leave the area in late October or early November. Mr. Scoular saw a very large flock March

12, 1957, north of Calgary; Mrs. Scoular one bird March 17, 1957 five miles south of Red Deer.

ERSKINE, ALTA.—Lloyd M. Lohr has records dating from 1954, as follows: March 2, 1954 (2), March 22 (12), June 12 (young first seen), June 16 (large flock at barn); March 27, 1955 (first arrival date), March 19, 1956 (first arrival), May 13 (young heard in old woodpecker hole), June 5 (young flying); March 2, 1957 (first arrival). These records show that Starlings do not winte the locality. "They move in du March and feed around the buildi mostly on offal from butcherin kitchen scraps, or suet at the fee tray. By April's end they are ne in the surrounding poplar grov old woodpecker holes. The young very noisy and are easily loca June finds the young flying, an July they flock up and are along roadsides and are gone by ust."

SPECIMEN RECORDS: Department of Biology, University of Sask., Saskatoon. No. 384. 1947. ♀ Scott, Sask. coll. by F. Rouse; No. 389. Nov. 28, 1947. ♀ Fairy Hill, Sask. by Mrs. C A Stewart; No 390 April 5, 1949. ♂ Lake Lenore, Sask. coll. by R. N. lems; No. 392. March 17, 1950. ♂ Hodgeville, Sask. coll. by M. Atherton.

The New York State Standards of Abundanc Frequency and Occurrence

(A committee from the Federation of New York State Bird Clubs has, after much conside and study, formulated a set of standards so that bird abundance and occurance can be unif reported. It is hoped that these will be adopted across the continent. They have given mission to reproduce these in the BLUE JAY—C.S.H.)

1. ABUNDANCE SCALE, NON-BREEDING

Abundant: Occurring in such numbers that a competent observer at the propriate time and place might see or hear more than 500 individuals single day.

Very common: 101-500 in a single day.

Common: 26-100 in a single day.

Fairly common: 6-25 in a single day.

Uncommon: 1-5 in a single day (no more than 25 per season).

Rare: 1-5 in a single day (no more than 5 per season).

Very rare: No more than 1 per day (and 1 per season).

2. ABUNDANCE SCALE, BREEDING

	Breeding density (flicker size or smaller)	*Breeding density (larger than flicker)*
ABUNDANT	1 pair per 1-5 acres.	1 pair per 1-25 acres.
VERY COMMON	1 pair per 6-25 acres.	1 pair per 26-125 acres.
COMMON	1 pair per 26-125 acres.	1 pair per 125-640 acres.
FAIRLY COMMON	1 pair per 125-640 acres	1 pair per 1-5 sq. miles.
UNCOMMON	1 pair per 1-5 sq. miles.	1 pair per 6-25 sq. miles.
RARE	1 pair per 6-25 sq. miles.	1 pair per 26-125 sq. miles.
VERY RARE	1 pair per 26 or more sq. miles.	1 pair per 126 or more sq.

3. FREQUENCY STANDARD

Regular: Recorded every year.

Irregular: Recorded less than once every year, but no less than once in years, on the average.

Occasional: Recorded less than once in five years, but no less than onc ten years on the average.

Sporadic: Recorded less than once in ten years, but no less than onc twenty years, on the average.

Casual: Recorded less than once in twenty years, on the average.

Exotic (or Accidental): Recorded but, because of its normal range, not pected to occur again.

4. SEASONAL OCURRENCE

Residents: Breeding species; may occur as summer residents or perma residents.

Transients: Birds of passage which occur in spring and/or fall but do breed; may occur as spring transients or fall transients.

Visitants: Non-breedings birds which occur as temporary visitors; may c as summer visitants, winter visitants or vagrant visitants (irregular season).

Wisconsin "Chickens"

(*Tyumpanuchus cupido*)

By FRED W. LAHRMAN, Saskatchewan Museum of Natural History

At the invitation of Dr. and Mrs.
N. Hammerstrom, grouse project
ders, Ralph Stueck, Wolfram Nies-
n and I visited a Pinnated Grouse
oject Study Station on March 29-
1957, at Plainfield, Wisconsin. A
ique study of this rare and van-
ing species is being carried out
Plainfield by the Wisconsin Con-
vation Department; unique be-
use of the extent to which the in-
ested public is invited to partici-
te.

Each spring, during the courtship
riod when the grouse are perform-
g on their traditional dancing
ounds, hundreds of university
udents, photographers, bird watch-
s and others interested in nature
me to use the numerous blinds
hich have been set up right in the
iddle of established dancing
ounds. The study benefits in this
gard from the observations made
visitors, but the public benefits
ore. It is hoped that this publicity
ill help to interest people in the
elfare of the species. For nesting
is grouse requires natural grass
eas. Recent purchases of suitable
acts as permanent nesting grounds
local natural history societies and
terested individuals demonstrates
e effectiveness of this program.

Unfortunately, this species of
ouse, the "true" Prairie Chicken
"Squaretail," although once com-
on in southern Saskatchewan,
ems to be extirpated in this area. Our last known report is a bird which was shot on October 31, 1945, at Carlyle, Saskatchewan, by Mr. R. J. Fyfe of Regina, while hunting sharp-tailed grouse. The habitat requirement studies in Wisconsin may well provide the clue to the re-establishment and management of the Pinnated Grouse in Saskatchewan.

If our personal experience is similar to that of others who have watched the "chickens" perform we can well understand the enthusiasm which has been aroused in Wisconsin. In the cold and utter darkness of 3:30 a.m. we crept out of our snug sleeping bags, did justice to piping hot coffee and scrambled eggs prepared by the brisk and energetic Hammerstroms—to whom this was an everyday affair—climbed into various cars and trucks and were ushered out to the blinds by 4:30 a.m.

At the first hint of dawn I could hear the booming of the grouse as they aprcached and soon, in the gathering light, I could see fourteen grouse before my blind, each busily engaged in maintaining its own territory, fighting other intruding cocks and displaying and booming and awaiting the arrival of the hens. When the light improved after sunrise I was able to secure a number of photographs of the birds. Photos alone can convey only a small part of our experience—but perhaps one day we'll see the real thing in Saskatchewan.

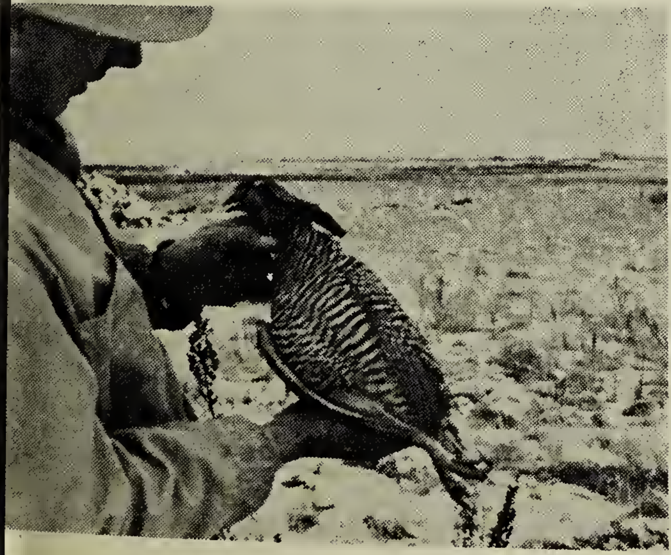


Photo by R. J. Fyfe
Pinnated Grouse taken at Carlyle,
ct. 31, 1945—Last known record for Sask.

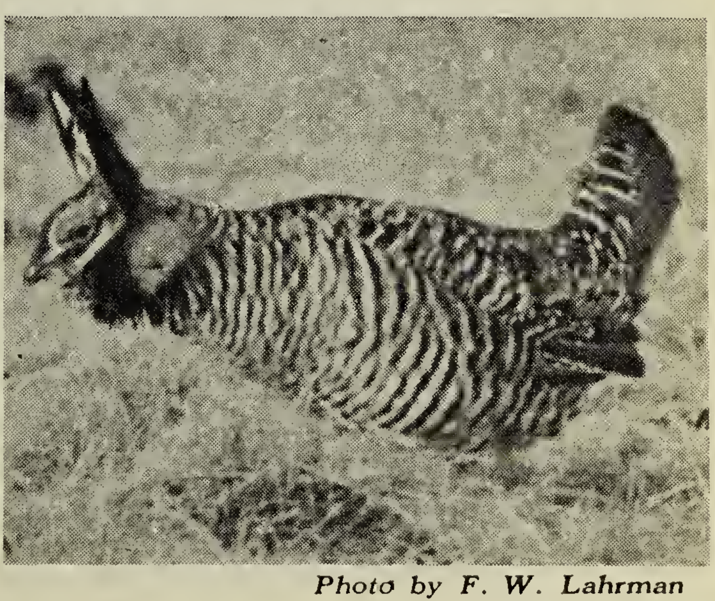


Photo by F. W. Lahrman
Pinnated Grouse. Wisconsin, March, 1957

Further Comments on Raising Cranes

EDITOR'S NOTE: Following the article by Dayton Hyde on raising Sandhill Cranes at Yamsay Ranch, Oregon, printed in the last issue of the BLUE JAY (1957, 1:19-21), we are pleased to be able to add some further comments on this controversial subject, and to preserve some early records of raising cranes that might otherwise be lost.

Saving the Cranes

By H. H. PITTMAN,
Wauchope, Sask.

The attempts to save the Whooping Cranes are not having the results hoped for and the number of young ones seems to be smaller every year. Moreover, the adults are getting older and it is quite possible that some may have reached, or be approaching, the limit of their powers of reproduction so that, even in the most favourable circumstances, the presence of ten pairs of birds does not necessarily mean ten nests. With the possible breeding stock so reduced the probability of in-breeding has to be considered, too. This adds to the already insurmountable difficulties and problems. Although man is no longer an enemy of the crane but a would-be ally, the natural hazards remain practically the same as in the days when cranes were more numerous.

The apparent failure of our efforts to preserve the great birds seems to leave only one other course of action open. I believe the only possible way to save the birds now is to take any eggs that can be found and hatch them artificially. The hatching would be simple; the important and more difficult part would be the rearing of the chicks. My ideas about this are based largely upon conversations with people who raised the almost equally large Sandhill Cranes many years ago.

Photo by H. H. Pi

LITTLE BROWN CRANE

The care of the chicks should be in the hands of enthusiasts willing and able to devote practically all their time to the matter, for the young birds quickly learn to know their owners and follow them like little dogs. I have seen several that were being hand-raised and I remember one owner telling me that her bird enjoyed sitting on her lap and would often push its long bill down the front of her dress an her sleeves, apparently as a sig affection. The young birds are telligent and need affection so putting them in an enclosure of kind is out of the question. can be made as much a part o family as a cat or dog. The late I ence Merriam Bailey once wrot interesting account of a young c raised by hand in the United St

There are few birds that res more readily to care and kinc in captivity than cranes. I can member seeing some African that had been hand-reared and r that they were as tame and hea as domestic poultry. Admittedl have never heard of Whoc Cranes being hand-raised and ca say if they would react in the was as other species. Howeve the present time it seems ob that to leave the chicks to the of their parents exposes them t many dangers.

Naturally there are some d backs to such a suggestion as but until some more effective me

ving these birds has been found
lieve we should seriously consid-
ying this. The first objection will
o taking the eggs, so I suggest
eggs of a Sandhill Crane be sub-
ted when this is done. This, of
se, will require the co-operation
ie wildlife departments in Can-
and the United States.

do not think it will be difficult
ind interested people with the
ns, time and space, willing to
the young birds until they are
y to fly. Then, when the migrat-
adults return in the autumn, the
ig can be transferred to the win-
quarters of the wild birds. Or it
it be considered advisable to
the wings of the young ones
not give them complete freedom
their second year. Probably the
test difficulty would be in find-
nests; everything, of course, de-
s upon this.

iave perhaps, emphasized the af-
on displayed by the young cranes
er than the affection felt by
le for them. The affection is
lly mutual. I still remember
ing a farmer say some thirty-
or forty years ago that he plan-
to build an addition to his stable
ouse a crane if they succeeded
earing it! If any eggs can be
d and hatched it will probably
vise to keep the chicks apart—
bird to one person—at least in
earlier stages.

H. H. Pittman.

y Experience With he Sandhill Crane

RED S. BAINES, Kelowna, B.C.

1883 when I was eight years
we arrived in the Crescent Lake
ict 18 miles south of Yorkton,
h, by the way, wasn't there at
time. The sky was yearly dark-
by immense flocks of wild fowl
ating south and I have witnessed
passing of millions of swans,
e Cranes, Sandhill Cranes,
e of many varieties, pelicans,
s and snipe, owls, hawks and
tless types of all lesser kinds of
s.

ice I picked up two young Sand-
Cranes (escorted by their par-
. They were about a month old. These I took home to my ranch and homestead. It took me several days to find a menu acceptable to these birds. I tried soaked bread, small frogs (of which there were thousands at the time), boiled eggs, chopped meat and soaked grain of different kinds and plenty of good fresh water. For nearly four years all they would eat was wheat. I filled a three pound baking powder tin with my best wheat and they would drive their long bills into it and gobble it like ducks or geese. I filled another similar tin with sand and gravel and a third receptacle with strictly fresh water.

During the summer they lived in a 6 by 14 foot pen with a shed at one end which they seldom used. I provided a shallow four foot wide pan which I daily replenished with cold, clear water. Every morning just as the sun peeped over the horizon they splashed and bathed for at least 10 minutes and then spent an hour or so performing an elaborate toilet.

These cranes and I became fast friends. The male bossed me around and whanged at me with his long sharp bill. He gave me to understand that he only just tolerated me because I fed and watered them. The female, about six inches smaller, treated me with respect and caution and never once struck at me. As I made my exit from the pen the male

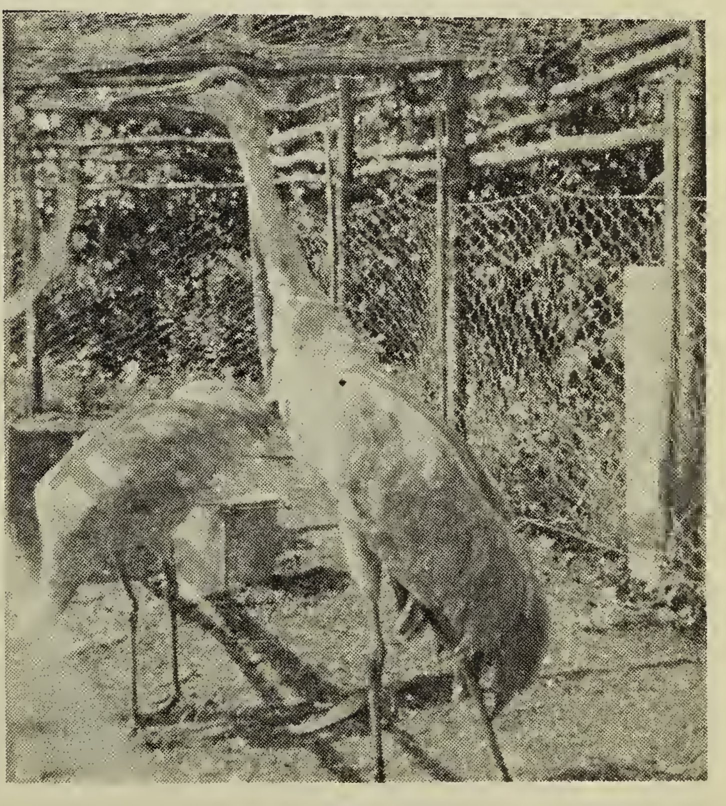


Photo by Fred S. Baines
SANDHILL CRANES, 1906

always made a vicious onslaught at me, so I wore a heavy overcoat, a cap pulled well down over my ears and a pair of buckskin mitts. I took it all as a friendly joke and he always finished up by cursing me heartily in an exceedingly high voice.

Their pen was just by the house and I passed and spoke to them every time I went to the barn. I learned their language and they talked back to me. I became so adept in their language that you couldn't tell which of us was talking.

During the winter I placed them in the hen-house. I hung their cans up out of reach of the hens. They lived in perfect peace with both hens and roosters. The hen-house was made of logs, chinked with mud. They pierced holes through the mud and stuck their heads through and carried on a conversation with me every time I crossed the yard. They wintered very well. Occasionally I let them out for an hour or two and they were quite easily herded back in.

The third spring the female laid one egg, but they made no attempt to incubate it. The fourth summer they incubated one egg and it hatched normally. They didn't know how to feed it. I provided boiled egg and milk and everything I had, but on the seventh morning it was dead.

That fall I built a new wooden hen-house. I didn't know enough to provide air holes for the cranes. They contracted tuberculosis and died in April. I had had these cranes for nearly four years.

My Sandhill Cranes remained healthy on a very simple diet. I think that Sandhills could be raised successfuly at very little expense and with not too much trouble.

Raising Cranes in the San Antonio Zoo

Mr. Fred W. Stark, director of the San Antonio Zoo in Texas, tells in the GAZETTE, April 1957, of his experiences in raising 22 cranes in San Antonio. His young birds are fed on a "wide variety of foods, such as raw meat, fish, shrimp, hard-boiled eggs, turkey mash, and many other things." He says that these birds
will develop rickets if they are
given a diet high in minerals. Yo
birds that were raised artifici
were always started on meal wo
and no difficulty was experien
in bringing them through to ma
ity.

Cranes in the San Antonio Zoo
not lay eggs until they were
years old. The 22 cranes raised
the zoo include nineteen Sa
Cranes, two Crown Cranes and
little Lilford Crane. Some of t
birds were raised by their par
but others were raised artifici
Mr. Stark says, "We do know
by removing the eggs from cr
breeding in captivity, they
sometimes lay as many as six ti
If this could be done with Whoo
Cranes, it would certainly give
a chance to increase the flock w
it would not face the problem of
ing extinct."

Mr. Stark reports that the
Manchurian Crane, so similar to
Whooping Crane, has been ra
successfully in the Honolulu Zoo
in the Munich Zoo.

Information on Cran s Wanted

Mr. Fred Bard, Director of
Saskatchewan Museum of Na
History, is anxious to compile
tribution and migration data
Sandhill Cranes. If you know
feeding or roosting or ne
areas, please send the informati
the Museum, Regina.

Sandhill Cranes begin arrivin
Saskatchewan about April 5. Us
they have areas of preference w
they congregate to roost for
night and feed in nearby fields.
earliest cranes to arrive will
perse and travel to their ne
grounds. The last to arrive from
south will move on further nor
nest to the limit of suitable c
These are generally considered
the Lesser Sandhills. It is impo
in the field to distinguish bet
these northern Sandhills and
southern cranes that nest in
muskegs of our forested region

The White Pheasants of Saskatchewan

By THOMAS A. HARPER
Wildlife Branch, Dept. of Natural Resources, Regina

During the past three or four years, range-looking pheasants have been owing up in various parts of the ovince. If you have had an oppor- nity to observe a group of pheas- ts recently released into the wild some sportsmen's organization the Department of Natural Re- urces, you may have noticed a w white, or almost white, pheas- ts along with normal ring-necked easants. These birds which are ing released into new cover or to rengthen already established popu- tions, have been raised at the Pro- ncial Game Breeding Station at skatoon or are from stock that iginated there.

This light-coloured pheasant is t a distinct species or sub-species, t is a variation of the ring-necked easant. This variation originated d has been developed at the Pro- ncial Game Breeding Station at skatoon. The light strain of pheas- ts began with a single white- loured chick hatched from a group ring-necked pheasant eggs at the ovincial Game Breeding Station, skatoon, in 1948. This chick, a male, was successfully raised and bsequently mated to a normal ring- cked male in 1949. The first gen- ation offspring of this mating were ry similar to the normal ring- cked pheasant in colour pattern, t on close observation both sexes uld be distinguished as being con- derably lighter than the normal ng-necked pheasants. First genera- n males were then back crossed the original light-coloured female 1950 and the resulting female icks proved to be considerably hter than the normal ring-necked male but not as light as the origin- "light hen." The males of this ck-cross, however, were consider- ly darker than the first genera- on and exhibited more rusts and eens in the feather pattern found the normal ring-necked males. In 51, this second generation, the ck-cross chicks, were again mated the original "light hen." In ad- tion, they were mated to one an- her and the results were quite riable. The third generation, or cond back-cross, resulted in female birds almost as white or whiter than the original "light hen" and male birds which were very dark in colour with no white neck ring. However, the results of the second generation to second generation matings were quite variable and gave results as follows: one group of birds were very light, almost indistinguishable from the second back-cross chicks; others were the same as the second generation birds and others were very close to normal ring-neck feather pattern both for males and females.

After several more years of selecting and breeding, the results now can be predicted with reasonable accuracy and the strain has been fairly well standardized. The females are quite light, but they are not a white bird; they exhibit some black ticking on the back and some buff colouration on the breast. The males are readily distinguished from the females as they are very dark, almost as dark as the normal ring-neck and in some respects even darker. They do not, however, have the white neck ring as exhibited by the normal ring-neck male.

Birds of this light strain, both males and females, have been released in many areas throughout the province and have proved themselves quite adaptable to Saskatchewan conditions, at least as adaptable as normal ring-necks. Natural reproduction has occurred in some areas and there has been both reproduction of the light strain as well as a blending of the light strain with normal ring-necks in the wild.

The casual observer should not find any difficulty in distinguishing the sexes of this light-coloured strain of pheasants. The males are very colourful, similar to the normal ring-neck male but darker. The females are drab like the normal ring-neck pheasant female, but lighter in colour —in fact, sometimes almost white. It is because of the ease with which the sexes can be distinguished that this light strain of pheasants was released into the wild, for it allows the hunter to recognize the male quickly and thus restrict his shooting to cock pheasants.

The Trumpeter Swan

By MARGARET BELCHER, REGINA

One of the things that attracts "birders" to the Cypress Hills is the expectation of seeing a pair of the world's largest swans, the Trumpeters. Only about 1,300 of these rare native swans exist today in North America. They are to be found in small flocks or as individual pairs in Alaska, British Columbia, Alberta, and in the states south of the border. Red Rock Lakes Migratory Waterfowl Refuge in Montana is the home of the American flock of Trumpeters, which fluctuates in size but approximates 600 birds. The birds have a usual range of about 100 miles from the refuge—notably in Yellowstone and Grand Teton National Parks and adjacent National Forests—but banding returns have proved that there is some interchange of birds between the Canadian and American flocks. The Canadian flock is "at home" about 850 miles north of Red Rock Lakes. In recent years, another breeding flock has been discovered along the Copper River in Alaska (**Auk,** 1957, 74:92). The only flock left in British Columbia seems to be the one at Lonesome Lake, 300 miles northwest of Vancouver, pictured in the **Leader-Post** of April 1, 1957.

I have seen Trumpeter Swans only once—a pair in the Wildfowl Trust's sanctuary at Slimbridge, Gloucestershire. These swans were placed in the Trust's care by the Queen to whom they were presented by the Government of Canada and the Government of British Columbia during the Royal Tour in 1952. It seemed strange to see the first pair of Trumpeters so far away from home, when a pair have nested several years in Saskatchewan in West Block of the Cypress Hills

In 1953 the first Museum ne record for the Trumpeter in Sas chewan was established (**Blue** 1953, 11:4:26-27). However, resid of the area had noticed the bird previous years at Bottley's where they nest, and at Adams' and Harris' Lake to which move their young (see item by Percy Drury of Swift Current in **Blue Jay,** 1954, 12:2:11).

According to Taverner, the Tr peter was at one time a regular n throughout the prairies and Br Columbia. Perhaps its disappear is accounted for largely by the that it was easily shot. Although one of America's endangered spe the Trumpeter is still being sub ed to hunting pressure. This shown by a fluoroscopic study o birds carried out in 1956 in the Rock Lakes Refuge. During the mer moult, flightless swans caught by refuge personnel using thrust boats in a part of the r where no broods would be distu Thirteen out of 100 swans ca lead pellets in their tissue. de the fact that the Trumpeter is o fully protected list. This is prob due to the Trumpeter's being taken for the Snow Goose, a protected species. In any case, proof of hunting pressure empha again the need for untiring effo ensuring the protection, through cation and legislation, of rare like the Trumpeter Swan Whooping Crane.

BIRD NOTES

EVIDENCE OF STRATEGY IN THE HUNTING OF THE SNOWY OWL: One morning while going out to do chores, I noticed a Snowy Owl perched on the combine. As there was a flock of partridge in the trees nearby, I imagined he had tried to catch one and failed, so was waiting for another chance. As I was going into the barn, a few pigeons flew out, and the owl immediately gave c but of course the pigeons had difficulty keeping out of his After a few circles around the the owl gave up and glided to a phone pole, 30 rods east of the aries, and soon the pigeons s down on the east slope of a gr roof, in full view of the owl.

About 20 minutes later

king toward the house, I saw the
leave the pole and fly leisurely
a northeasterly direction, looking
y much as if he were leaving,
I had already forgotten about
n when suddenly he flew from be-
d the house and past me, making
ee-line for the granary on which
pigeons were sitting. As he was
v on the northwest side, they did
see him until he was among them.
dently, as soon as he was out of
ht of the pigeons, he made a right
out turn and attempted to sur-
se them. He certainly did surprise
m, but despite his strategy, he
ssed and had to go hungry that
rning. This shows that while the
l was sitting on the pole, he was
ng a bit of thinking, and this is
oof that our hunting birds as well
our hunting animals are capable
resorting to cunning when they
l to catch their prey otherwise.

—S. O. JORDHEIM,
White Bear, Sask.

**OUNTAIN CHICKADEE AT
SKINE, ALBERTA** — **Lloyd M.
hr** tells of the regular visits this
st winter of the Mountain (Gam-
l's) Chickadee—his first record. A
ountain resident, the Mountain
ickadee is rare in east central Al-
rta.

**FEBRUARY RECORD OF GOL-
EN-CROWNED KINGLET NEAR
EGINA** — Two Golden-crowned
nglets were observed Feb. 7, 1957,
the deciduous trees of the Was-
na Creek valley 10 miles northwest
Regina. **G. F. Ledingham, M.
lcher.**

EDAR WAXWINGS IN MARCH—
e Cedar Waxwing is generally
nsidered to be the summer wax-
ng, and the Bohemian, the winter
axwing. However, a close look is
ways indicated, as in recent years
all flocks of Cedar Waxwings have
en noted as remaining in Saskat-
ewan until early January. Simi-
r observations have been made in
anitoba and northwestern Ontario.
On March 28, 1957, **Dr. Stuart
ouston** noted a flock of fifteen
dar Waxwings in the C.P.R.
ounds at Yorkton. They presum-
ly wintered in Saskatchewan, and
uld hardly be considered early
ring migrants, since the Cedar
axwing is ordinarily about the last
rd to arrive in the spring. The earliest record at Yorkton is May 26, and the average, June 1.

AN ATTACK ON MAN BY A WHOOPING CRANE — Following Fred Lehrman's article on the Aggressive Behaviour of a Whooping Crane **Blue Jay**, 1957, 15:14-15), it is interesting to have **James L. Parker** of Gilbert Plains, Manitoba recall a record of an attack on man by a Whooping Crane in Grant's and Macoun's accounts of the Sanford Fleming expedition of 1872. Grant describes the incident in **Ocean to Ocean** as follows: "On our way to dinner, two large white cranes rose swan-like from a wet marsh near the road. Frank (sixteen year old son of Sir Sanford Fleming) with his gun and Willie (half-breed of same age in charge of the horses) with a stone made after them. The larger of the two flew high, but Willie's stone brought down the other. As he was seizing it, the big one, evidently the mother, attacked him, but, seeing the gun coming, flew up in time to save herself. The young one was a beautiful bird, the extended wings measuring over six feet from tip to tip. As soon as Willie had killed his game, he rode off in triumph with it slung across his shoulders. In twenty minutes after his arrival at camp, he and his mates had plucked, cooked and disposed of it, all uniting in pronouncing the meat delicate and 'first class'."

Macoun also tells of the incident in his **Autobiography** and says, "the flesh tasted very good, but was a dark colour." The date was August 12, 1872, and the place, according to Grant's map, on the Carlton trail just northwest of the Touchwood hills. Macoun says it was "out on the prairie south of Quill Lake."

If the crane killed was a juvenile it is interesting that it was so well developed on that date. It is hardly probable, however, that a juvenile would be described as white.

BRONZED GRACKLE NESTING IN BIRD HOUSE — Utilization of bird houses for nesting by species which do not ordinarily nest in holes is uncommon as is indicated by the list compiled by Kalmbach and McAtee (1942. Home for Birds, U.S. Dept. Interior, **Cons. Bull.** 14:2). Todd (1947. Birds of southern Saskatchewan. **Annals Carnegie Mus.**, Vol. 30.417) reported Bronzed

Grackles (*Quiscalus quiscula*) using "sheltered boxes" at Davidson, Saskatchewan, but he gave no details of the box type. Bronzed Grackles have nested in a duck nest barrel at Regina, Saskatchewan, for the past several years, according to Fred W. Lahrman (see photo). This nest barrel has an opening 5 inches in diameter and is fastened about 14 feet above the ground to a pole which stands some 25 yards back from the edge of Wascana Creek. The barrel was originally set up by Fred G. Bard on his sanctuary to attract Golden-eye ducks (*Glaucionetta clangula*). Young Grackles fledged from a nest in this barrel about July 4, 1956. Nesting was also successful in 1955 as well as in several previous years. Other Grackles have frequently nested in the usual manner in a small grove of trees which reach to within 10 feet of the nest box. A report of the possible nesting of the Red-winged Blackbird (*Agelaius phoeniceus*) in a bi house at Last Mountain Lake, Sa katchewan, has been published in t **Auk** (Nero, 1956, 73:284).—R. Nero, Saskatchewan Museum of Na ural History, Regina.

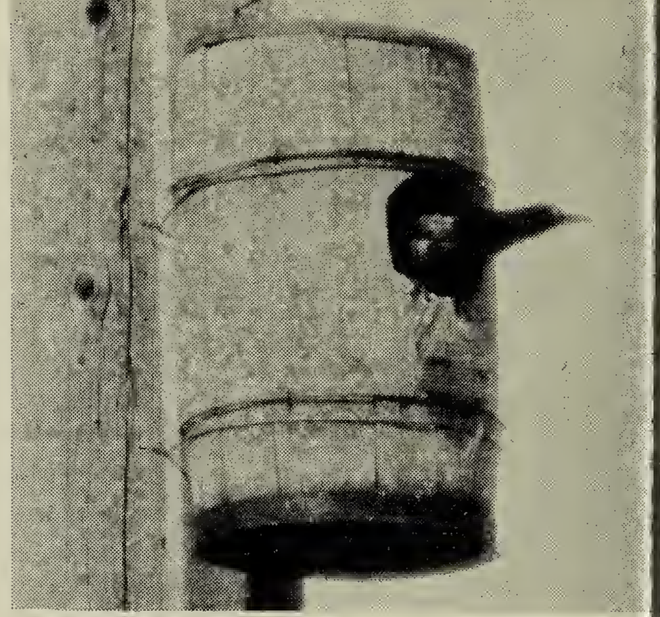


Photo by F. W. Lahr

Bronzed Grackle nesting in duck nest ba

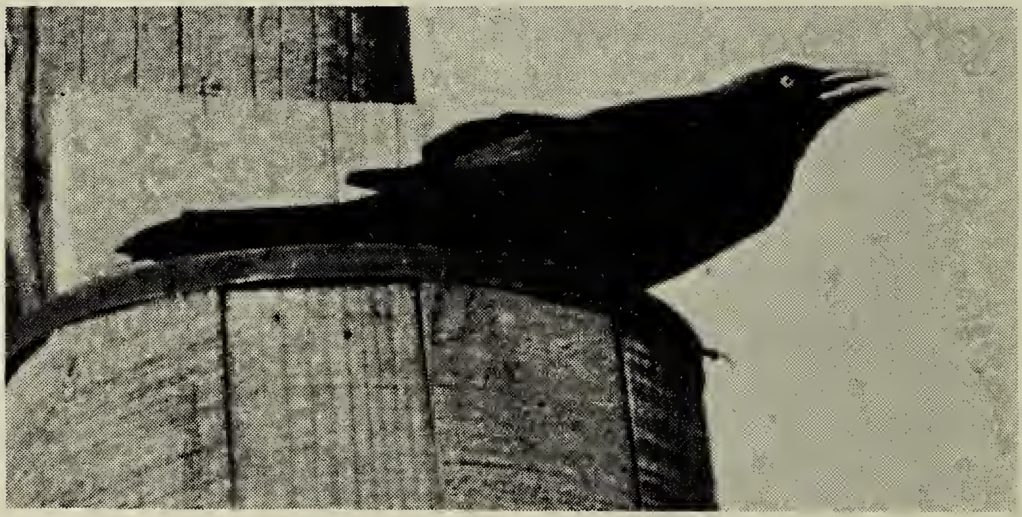


Photo
F. W. L

Mourning Dove Information Wanted

A year ago the **Blue Jay** published a request from the U.S. Fish and Wildlife Service asking for assistance in banding Mourning Doves. Fred Bard, Director of the Saskatchewan Museum of Natural History, has received a request again this year for co-operation in the project, from Harold S. Peters, Research Biologist of the U.S. Fish and Wildlife Service, who writes: "We would appreciate having your active assistance in this programme and hope you may induce other persons to band dove nestlings during this summer." For further particulars, see the **Blue Jay** (1956, 14:49).

In the southern part of its range the Mourning Dove is considered a game bird. In fact, it is the most important of all migratory game bi being harvested in greater numb than all species of waterfowl c bined. Since Mourning Doves migratory, their hunting is regul by the Federal Government, and U.S. Fish and Wildlife Servic therefore interested in any infor tion relevant to the management the bird.

A five year project of dove n ling banding was inaugurated 1956. It met with a fine respo from game department personnel interested members of the gen public, North Dakota leading nation in number of nestlings ban (3,634). The intensified dove n ling programme is being contin in 1957.

North American Co-operative Bird Migrating Study – 1957

We hope most of our members will ke part in this year's bird migra- on study—in co-operation with bird atchers across the continent. In ddition to the first seen dates, ake note of any heavy migration aves for the species involved. When ossible, give number of individuals een on the first seen date and num- er of individuals seen with the eak migration wave for that spe- es. The species chosen are fairly ommon and easy to identify, so that veryone can take part. These rec- rds will be summarized for the **lue Jay** and then forwarded to **udubon Field Notes** and the U.S. ish and Wildlife Service. Don't de- y. Send spring migration dates to **r. Stuart Houston, Box 278, York- on, Sask.,** for the following species: Whistling Swan, Canada Goose, Mal- rd, Pintail, Marsh Hawk, Killdeer, Wilson's Snipe, Mourning Dove, Nighthawk, Ruby-throated Hummingbird, Flicker, Eastern Kingbird, Eastern Phoebe, Barn Swallow, Purple Martin, Crow, Catbird, House Wren, Brown Thrasher, Red-eyed Vireo, Black and White Warbler, Yellow Warbler, Myrtle Warbler, Ovenbird, Redstart, Red - winged Blackbird, Baltimore Oriole, Rose-breasted Grosbeak, Goldfinch, Slate-colored Junco, Chipping Sparrow, White-crowned Sparrow, and White-throated Sparrow.

We would like dates also, for any of the following species, less commonly seen in Saskatchewan but being included in the co-operative migration study in the east: Chimney Swift, Crested Flycatcher, Eastern Bluebird, Scarlet Tanager, Indigo Bunting.

Museum Expedition Underground

By RICHARD W. FYFE, Saskatchewan Museum of Natural History

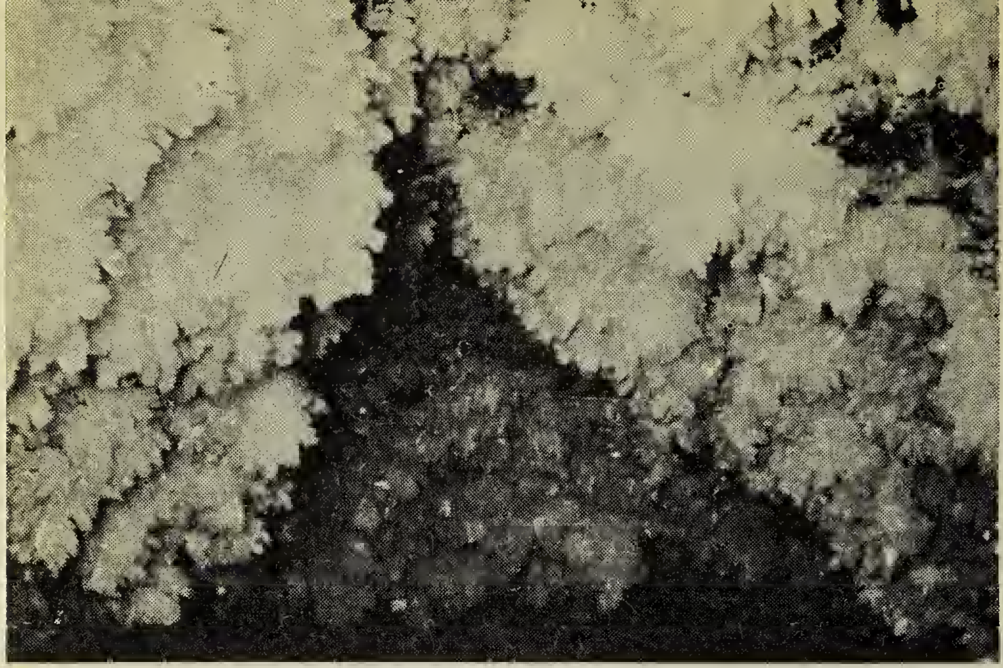
A museum expedition to Estevan n March 15th of this year has re- ealed some fascinating under- round natural history in the coal ines in the Long Creek area. Or- ginally, the expedition was under- aken to make a brief archaeological econnaissance of the area and to xamine the mines for hibernating ats.

We found on arrival that many of he mines had been closed down for everal years and that most of these ad since caved in, making an ex- ensive search impossible. However, ve were informed that one mine had een in operation as late as the pre- ious fall, and we decided to explore t first. The mine entrance was nerely a large hole about 7 feet igh and 12 feet wide in the hillside eading to a horizontal shaft hun- reds of feet long.

Just within the entrance we be- eld some of the most beautiful cry- tal formations we had ever viewed. The roof and the walls of the mine entrance were lined for about 100 feet with spectacular ice crystals, some of which were up to 18 or 20 inches in length. Deeper in the shafts the crystals were much shorter and they disappeared eventually as air warmed the interior.

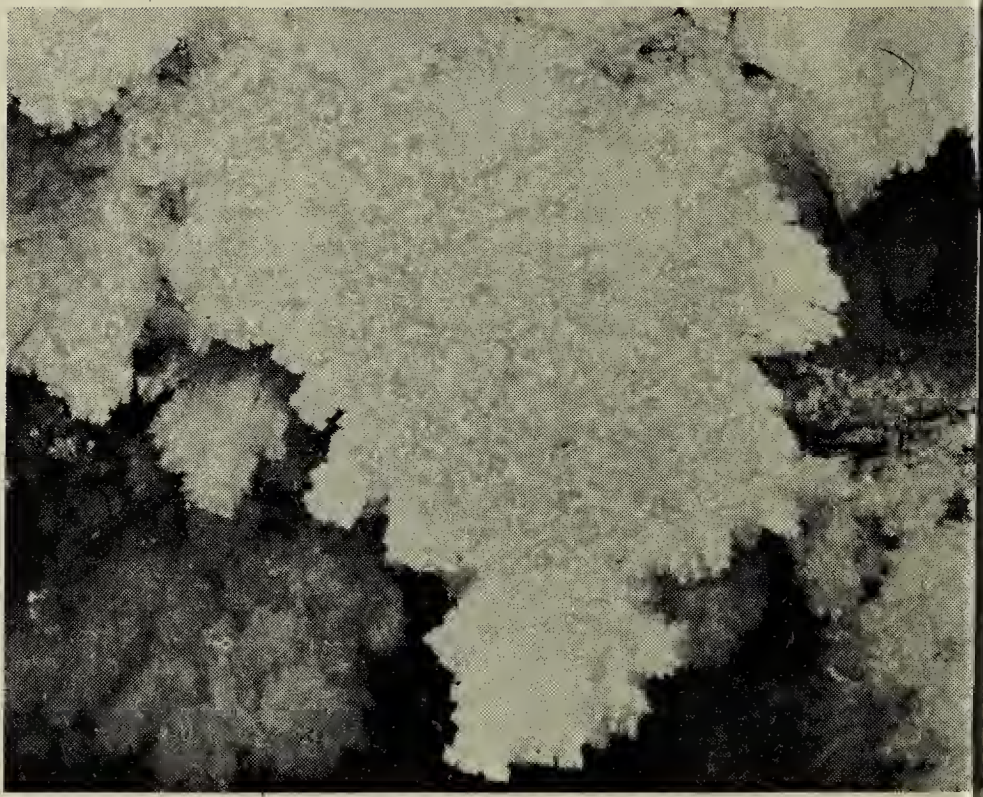
The second discovery was what appeared to be amber-colored crystalline stalagmites on the mine floor. These stalagmites of ice were identical in shape with their stone counterparts in some of the southern caverns. Generally these stalagmites were banded with color and apparently shaped by alternate periods of freezing and thawing during the winter.

We examined all the shafts in the mine but on a cursory examination did not find any bats. However, on a return visit and with the aid of the mine owner we were able to locate our first recorded cave hibernating bats in drill holes. Big Brown and Little Brown Bats were found.



EXPEDITI

Mine entrance li about 100 feet w crystals



A mammoth ice crystal, n actual size about 18 nches from top to bottom

Amber-colored i agmites on the floor, ranging from 6 to 24 in height

RGROUND

gry Big Brown Bat
ned from its winter

Dr. Nero and Bruce Mc
Corquodale of the Sask
Museum of Natural His
tory examining fossil
found in the shale at on
of the mine cave-ins

up of clam and
hells embedded in
ale. Estimated to
00 years old

Forestry in Saskatchewan

By ALEX DICKSON, Extension Forester, Prince Albert

EDITOR'S NOTE: This is the second in a series of articles on the conservation of our natural resources written especially for the BLUE JAY.

The face of Saskatchewan is slowly but inexorably changing. Time was when the province was wholly dependent upon its ability to produce first-rate milling wheat . . . and, to produce it in abundance! Today, the chemical, oil, mining and forest industries are assuming a greater and greater economic importance. That is perhaps as it should be. After all, three-fifths of the land area of the province consists of forest, water and rock.

The forest land north of Prince Albert supported one of the largest lumber mills in Western Canada at the turn of the century. At that time, river boats plied the North Saskatchewan River and logs were driven down many of the small tributaries. It is hard to imagine such happenings today: the forest boundary has receded so far that the nearest permanent sawmill is now located at Big River, some ninety miles northwest of the city, and so much debris has been deposited in the river that canoe travel is extremely difficult at certain times of the year. Saskatchewan's forests, like those of the rest of North America, suffered heavily at the end of the last century and the beginning of this. The trees that escaped the logger's axe ended their days on the funeral pyres of land clearing. To the men who wanted to till the soil, they represented only many months—even years—of hard, back-breaking labour. Thus the pioneer used any means he could to get rid of trees, sometimes needlessly destroying neighboring forest. Deterioration of the land, silted-up river beds and a lack of the larger type of timber have resulted.

Sad though the situation is, it is not hopeless. Since the end of World War II, steps have been taken to implement the provincial government's policy of "conserving, perpetuating and promoting the best ultimate use of Saskatchewan's forest wealth." The first task was that of taking stock. In 1947, the Inventory Division of the Forestry Branch, Department of Natural Resources, was set up on the recommendations of a post-war Royal Commission on Forestry; it has since mapped and "assessed" the entire 23,000,000 acre Commercial Forest Zone besides reconnoitering a further 43,000 square miles north of the fifty-fifth parallel Thousands of sample plots, a fifth of an acre in size, were measured to supply basic data on volumes and rates of growth, while 70,000 photos taken in the summer at altitudes o eight or nine thousand feet, provided the detail for the cover-type maps Although objects appear small from that height, the skilled reader o photographs can determine the kind and height of trees and the density of stands by examining the aeria pictures carefully.

The great interest taken today i the province's forest reserve is th result of this mammoth stocktakin which has revealed that there is a abundant supply of raw material fo a variety of industries using woo Six billion cubic feet of pulpwood, a well as half as much again in th form of sawtimber, are ready to b converted to paper and lumber. No only that, but this quantity of ra material from trees of all commercia species increases annually at the rat of 232,000,000 cubic feet. Theoretically, by cutting only the annual increment each year, the forest capita is never depleted.

Only careful, long-range plannin however, can bring this about; an it is the function of the Managemen Division to make practicable working plans. While it cannot truthfull be said that "sustained yield" is being achieved at the present tim cautious exploitation is at least reducing the number of over-age tree and giving a more favorable distribution of all actively growing ages.

The Silviculture and Extensio Division performs many function the forests are aided in the regeneration of themselves by both natur and artificial means; land is assigne to its proper use, either for agricu ture or forestry; private woodlar

Sask. Gov't Photo by G. Savage

ventory forester and assistant tally and mark trees in a sample plot during a stock-taking rvey.

wners are given guidance in the anagement of their property; and ven forest pastures are carefully ssessed on the basis of their stock-arrying capacities.

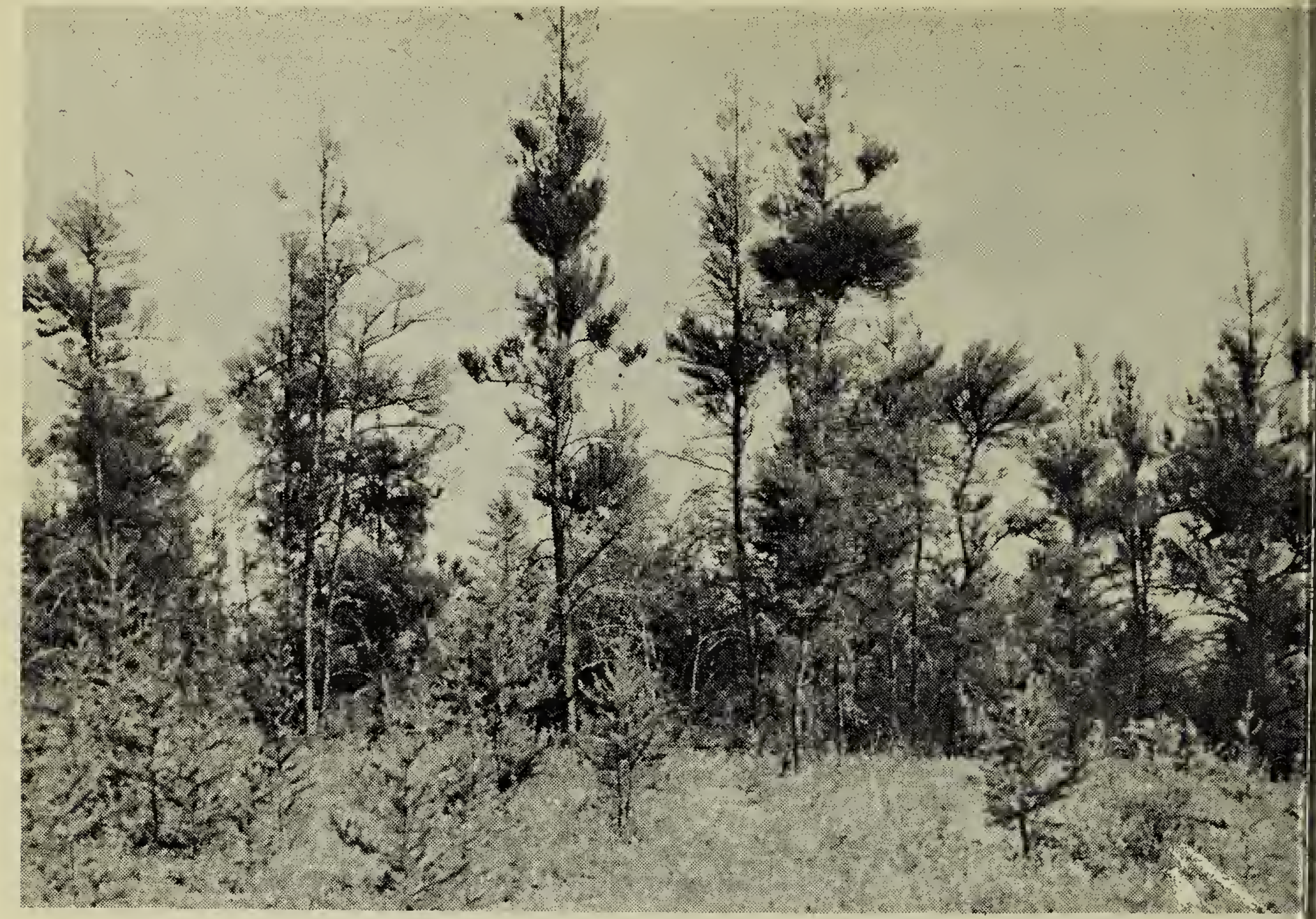
The infant of the Forestry Branch the Research Division. It is investiating the various problems connectd with growth, yield, decay and reeneration, as well as testing the pplicability of scientific findings to askatchewan conditions.

The harvesting and marketing of rest products each year are in the harge of the Saskatchewan Timber oard. This Crown Corporation assts with the building of access roads nd insists on a high degree of utilation by the various sub-contracrs. Thus a close check on the forsts' annual yield is kept, and the perations are subjected to a degree f "quality control."

Saskatchewan forests are remarkly free from injurious insects and iseases. The major insect pests are e larch sawfly and the forest tent terpillar. Both are leaf-eaters. The rmer attacks tamarack, and was sponsible for the almost total eclipse of that species in the 1920's; whereas the latter has several times in the last thirty years rendered vast stands of poplar leafless in the middle of summer. These defoliations, however, do more to reduce increment than to kill. Outbreaks of jack pine and spruce budworm have been recorded, but the damage done has given little cause for alarm.

Only jack pine suffers from the "attentions" of a parasitic plant known as dwarf mistletoe. This plant deforms the trees, rendering them unsightly and worthless for timber and poles. Heart-rot fungi are prevalent to some degree in all species, and are a source of waste, both in time and material.

Forests are protected by a Fire Control Branch, which proudly boasts the only parachutist, fire-suppression unit in the British Commonwealth — the Saskatchewan Smokejumpers. Modelled on the world-famous group of American fire-fighters in Montana, the smokejumpers were organized in 1947 to stop the spread of fires while they were still small. Today, they may still be regarded as the shock-troops



Sask. Gov't Photo by G. Savag

Dwarf Mistletoe, an insidious parasite of jack pine, manifests itself here in witches' broo (unsightly clumps of branches). The only cure is removal of the infected trees.

of the fire-fighting force, "holding the line" until reinforcements arrive.

As soon as a "smoke" is spotted by any of the 80 fire towers, strategically located to provide almost complete coverage of the Commercial Forest Zone, or by aircraft of the special fleet which patrols during periods of high hazard, the men are flown from their base at Lac la Ronge and dropped from an altitude of approximately 2,000 feet. Owing to their special training and protective clothing, the parachutists can land among trees without injuring themselves. In fact, the jump-master says he is worried more about the equipment than the men. When the fire is out or when reinforcements arrive, the smokejumpers walk out to the nearest lake and radio for their plane to take them back to base.

Of course, prevention is superior to cure. A vigorous propaganda campaign reaches the province's far-flung population through motion pictures, press and radio. Each year a Forest Conservation Week is set aside to encourage every resident of the forest area to value the forest and what it contains. Speakers of national renown who have come to addres meetings in various communities a this time include C.B.C.'s John Fishe and Mrs. Kay Russenholt, the Canadian Forestry Association's J. L. Va Camp, and Weekend Magazine's editor and columnist, Gregory Clar This year, the guest was Mr. Roderick Haig-Brown, noted conservatio writer of Vancouver Island.

In Saskatchewan only nine speci of trees are considered of commerci value. They are: white spruce (*Pic glauca*), black spruce (*P. mariana* balsam fir (*Abies balsamea*), ja pine (*Pinus banksiana*), lodgepo pine (*P. contorta* var. *latifolio*) ar tamarak (*Larix laricina*) from th conifers; and white poplar or asp (*Populus tremuloides*), black popl (*P. balsamifera*) and white bir (*Betula papyrifera*) from the broa leaved trees. The distribution these trees gives rise to the follo ing zones:

(1) The Prairie Belt, where tre are noticeably lacking except in l calities of high elevation such as t Cypress Hills.

(2) The Aspen Grove Belt, w aspen or white poplar predominati

(3) The Mixedwood Belt, where species are present.

(4) The Northern Coniferous For- Belt, where the broad-leaved es are entirely lacking or very ch in the minority.

(5) The Arctic Tundra Belt, where permanently frozen subsoil has used stunted growth, making this ion veritably "the land of little cks."

Forest management so far has ainly been put into effect in the ixedwood Belt, because of its easy cessibility and the availability of e different species. Later, other gions will come under more inten- e management.

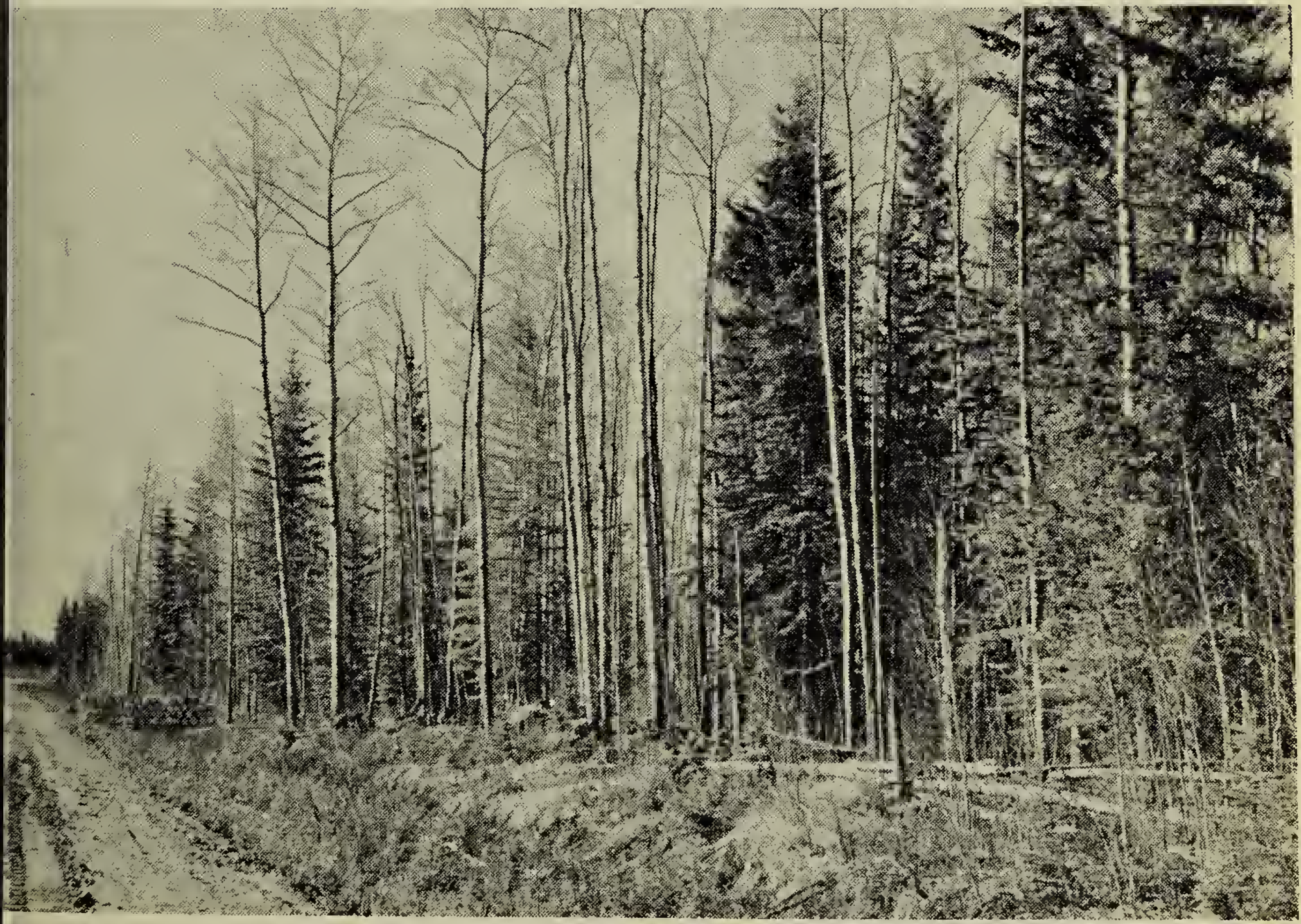
The government of Saskatchewan keenly aware of the province's eat forest resources, and is eager to tract industries which will use em. Today, a small fibreboard plant nearing completion, a blockboard ant is committed to begin opera- ns next year and an agreement has en signed with a pulp firm which tends to establish a $60,000,000 ant near Prince Albert within the xt two years. Two more pulp mpanies are negotiating for limits, as well as a firm interested in the production of chipboard.

These industries are not to be established at the expense of our forest resources. Management plans based on sound forestry principles have to be prepared by the companies and submitted to the government for approval either before operations begin or a year ar two after. Further assurance of proper management and accurate statement of production returns is the financial deposit required of the companies, and their compulsory employment of government licensed scalers.

No longer, it is hoped, will Saskatchewan be rated only as a "wheat province"; trees also are a valuable crop.

BINOCULARS FOR SALE

10x50 binoculars with case. Coated lens. Field 5°. Army and Navy Special. Individual eyepiece focussing. $30. Write F. W. Lahrman, Sask. Museum of Natural History, Regina.



Sask. Gov't Photo by G. Savage

hite spruce occurs naturally under the beneficial shade of aspen. Here, in a typical mixed- ood stand, the spruce is rapidly overtaking the poplar and will eventually gain the ascend- cy.

Conservation in Action

(Reprinted from the Department of Natural Resources *Dispatch,* Vol. III, Jan. 1957)

SOMETHING NEW IN FORESTRY

Saskatchewan has something new in forestry. It started in May in the tiny, forest-fringe village of Christopher Lake, and, before very long, it may prove to be only the forerunner of a larger movement. Such, at least, is the fervent hope of Conservation Officer Al Fremont, founder-leader of the first Forestry 4-H Club in the province.

While new to Saskatchewan, the "Forestry 4-H Club" idea is already well established in the Province of Quebec, where some 10,000 teen-age members are working diligently to promote the importance and value of forest conservation . . .

Since their first meeting, much has been accomplished by the fifty boys and girls of the Christopher Lake Forestry 4-H Club. Trees have been planted; trees and shrubs have been identified, and many of the uses to which wood is put have been learned. Just recently an Achievement Day was held. Beautiful exhibits of leaves, twigs, bark and wood were on display to testify to the interest and diligence of the members. Examinations, too, on various aspects of forestry were written and results generally revealed a high degree of knowledge, considering the comparatively short time the club had been in existence.

Support from the community at large has not been lacking either. Mrs. R. Summers, a local resident, donated a quarter-section of woodland to the club to serve as a "practical workshop."

A FOREST ON THE PRAIRIE

by ALEX DICKSON, Prince Albert

A forest on the prairie! Unbelievable perhaps, but the living proof is there for all to see eighteen miles northwest of Kindersley, Saskatchewan. There, in the middle of a huge P.F.R.A. cattle pasture is an eight-acre "forest" of exotic pine trees.

Now over twenty feet high and generally in a thrifty condition, the trees—a Finish strain of Scotch pine —were planted by the local municipality in 1938 on the recommendatio of its secretary, Mr. W. H. Howes Mr. Howes, who took me to the plantation two or three months ago told me how the results have confounded the critics. Most of the experts he consulted, he said, were opposed to the plan and assured him at its inception of complete failure The various natural factors involved certainly did not give much cause for optimism: the long-term average rainfall was only ten inches per annum, while the existing vegetatio was typical of the so-called "high prairie" with trees very conspicuou by their absence.

During his many years of farmin in the area, however, Mr. Howes ha shrewdly observed that the plants o the lighter soils were most able t make use of the limited precipitatio and that land with a northerly exposure suffered least the effects o warm, drying winds. Thus it wa with a certain degree of confidenc that he selected the site for his tree planting project, which was intende as much as anything to boost th morale of the local farmers passin through the worst period of drough in their history.

Preparation of the site was essenttially simple: furrows were ploughed at five-foot intervals along th contours, and in those the trees wer planted by hand at a similar spacing The area was then protected agains rabbits and livestock by means of double fence. A shelterbelt of Northwest Poplars was planted on the wes side of the block at the time the pine were set in the ground, and the fast growing poplars have afforded measure of protection to the ever greens. No inter-row cultivation t keep down weeds was done after th trees were planted; indeed, M Howes largely attributes the succes of the venture to a profuse growt of Russian thistle, which held th snow on the plants in the winter an which prevented the growth of gras which would have offered stron competition for the young trees.

Not every tree that was plante has grown, but those that have sur vived have certainly brought abou a remarkable transformation of th

vironment. The tough, dry grasses
the original prairie have been
othered with a resilient carpet of
edles while the sickly-sweet smell
the sage has given way to the
reshing fragrance of the resinous
es. Liverworts, mosses and other
ical forest plants are beginning
make their appearance. Most
azing of all, however, is the nat-
al regeneration of the Scotch pine
elf. It is very unusual for a tree,
of its natural range, to reproduce
elf, but, in this instance, sturdy
edlings are springing up all over
area wherever there is an ade-
ate opening in the overhead can-
y. Mr. Howes also claims that the
l grass growing inside the fences
the now-scarce "sweet" grass of
prairie on which the buffalo
ed to feed.

Man, animals and the elements
ve taken their toll of the trees so
at only seventy-five per cent of
ose that were planted remain.
vetous neighbours stole some of
seedlings in the early years and
rcupines have stripped the bark off
veral stems. Snow, too, has caused
some of the trees to bend over and break. While the gaps and damage in the plantation tend to make the stand a little ragged, Mr. Howes is not too concerned since he has in mind a thinning programme for this winter which will give the trees more room in which to grow and the whole "island" a face-lift. This thinning will provide fencing material — a much-needed commodity in the nearby ranching country. Mr. Howes contends: "Why not grow fence-posts for the prairies on the prairies?" And to practise what he preaches, he plans to obtain 4,000 trees from the Dept. of Natural Resources Forestry Branch to begin a plantation on his own land, fifty miles south-west of Kindersley, next spring.

The grasslands are generally unsuitable for trees, but scattered throughout them are pockets of light soil, which, according to Mr. Howes, can be suitably managed to provide wood material, cover for beneficial bird and animal life, shelter for surrounding land, means increasing soil moisture, and last, but certainly not least, beauty in the prairie landscape.

just love communing with nature and
arning all about our little feathered
iends."

A Loco-weed New to Canada Found at Canopus, Saskatchewan

by JOHN H. HUDSON, Regina

While botanizing in the Rockglen-Killdeer country last summer, I saw a small (about 10 cm. high) silvery loco-weed with a short (3-6 cm.) spike of splendid magenta flowers growing on outcrops of the buff facies of the Ravenscrag formation (mostly yellow silt).

I took a sample (Hudson No. 1825) from a butte south of Canopus in NE¼ 3-3-2 W3rd, on June 18, 1956.

The plant did not fit the description of any species known to occur in Saskatchewan; it was near *Oxytropis lambertii* of the Estevan-Oxbow country, but this latter is a much bigger plant 20-40 cm. high with a long spike (10-20 cm.) of magenta flowers. So it was a question of sending a specimen out for expert determination; but before this, fruiting material had to be located. I therefore revisited the spot at Canopus on August 26 and learned with surprise that the plant in seed was hard to find, as the pods dropped off promptly on ripening. I managed to get on plant and a few spare pods (Hudso No. 1911).

Flowering specimens and a po were sent to Rupert C. Barneby, th legume expert. He named it *Oxytropis besseyi* (Rydb.) Blank, an said that this was the first record f Canada. The nearest known statio was in Dawson County, Montan some 140 miles southeast. The deciduous legume was, he added, nearl characteristic of *O. besseyi*.

One more point may be noted; th loco was strictly confined to outcro of the buff facies of the Ravenscra formation, and none was seen outside of the driftless area describe by Widkenden as extending betwee Rockglen and Killdeer. Dawso County, Montana, (around Glendive lies beyond the uttermost limit c continental glaciation. Is this just coincidence?

Additions to the Flora of Manitoba

By GEORGE A. STEVENSON,
Dominion Experimental Farm, Brandon, Manitoba

As a hobby during the past five or six years I have collected plants in and around Brandon, Manitoba. Most collections were made within the city limits. Some of these were new to the province at the time of collection and it has been suggested that I publish a list of the names so that a permanent record might be obtained.

Alopecurus myosuroides Huds. 1955. Cultivated land.

Eragrostis megastachya (Koeler.) Link. 1950. Grassed area, Provincial Exhibition Grounds.

Eremopoa persica (Trin.) Roshev. 1955. Ballast.

Setaria verticillata (L.) Beauv. 1949. Garden and cultivated soil.

Juncus compressus Jacquin. 1950. Marshy land west of city.

Vicia villosa Roth. 1953. Grassland.

Lamium album L. 1956. Old perennial border.

Plantago media L. 1953. Grassed are and edge of roadway, Provincia Exhibition Grounds.

X *Bidens stevensonis* Boivin. 195 Wooded ravine and banks of Assiniboine. *B cernua* and *B. vulgat* the putative parents are commo in the district.

X *Cypripedium andrewsii* A. M. Fuller. 1954. Growing on low prairi among *C. parviflorum* and *C. ca ceolus*, the putative parents.

Among the plants sent in c brought in to the Experimental Far for identification recently two appea to be first records for the province

Echium vulgare L. var *pustulatu* ·(Sibth. & Sm.) Coincy. 195 Growing in ballast at Alexande

Plantago indica L. 1955. Found in garden somewhere in Manitob Unfortunately there is no record the location or the collector's nam

Some Mushrooms of Prince Albert

By E. BROOMAN, Prince Albert

Anyone who has worked at the 'Mushrooms' will appreciate the difficul-es to be encountered in their classification. To begin with, texts are inade-uate, the whole taxonomy is currently in a state of flux, and information n our local species is very difficult to obtain. In so far as we have been able determine, very little serious work has been done on Central Saskatchewan lushrooms.' Indeed, the little information that we were able to secure was t variance with our own experience.

Despite these difficulties, a small group from the P.A. Natural History ociety set out to list some of the more common species in this area. Colored ides were taken by the photographers of the group, permanent microscope ides were prepared of the spores, and spore prints were made whenever ossible. In addition to this, some water color plates were painted for future eference. No permanent collection of dried specimens was made because it as felt that preliminary work should be completed first.

'Keying out' the Mushrooms is a very trying experience. Usually it is ot too difficult to establish the genus, but establishing the exact species is nother matter. It may not be difficult to establish that one has a *Cortinarius*, r example, but to be certain of the particular *Cortinarius* is quite a diffi-ult matter because of the variations within the species. A good example of is is the Fly Amanita (*Muscaria*). There appear to be some confusing var-ations here. Thus, one colored plate shows the stripe with "envelope" at e base, while another shows the base to be merely bulbous and without the olva. Thus, it is soon apparent that it is necessary to collect a great deal efore one is in a position to be absolutely certain of one's identifications.

Our list can be considered as a start. It includes only the more common pecies observed here during the past three years. Study of other species is ontinuing.

For easy reference, we have used the same nomenclature as employed by ussow and Odell in their *Mushrooms and Toadstools*.

manita muscaria: Fly Agaric
manita phalloides: Death Angel
epiota cristata: Crested Lepiota
rmillaria mellea: Honey Agaric
richoloma personatum: Lilac-hued Tricholoma
richoloma terreum: Mouse-grey Tricholoma
litocybe gigantea: Giant Clitocybe
actarius deliciosus: Delicious Milky Cap
actarius indigo: Indigo Milky Cap
ussula emetica: Pungent Russula
ussula lutea: Lemon-yellow Russula
ussula virescens: Green Russula
ygrophorus conicus: Cone-shaped Hygrophorous
leurotus ostreatus: Oyster Mushroom
leurotus ulmarius: Elm Pleurotus
holiotoa adiposa: Sticky Pholiota
holiota squarrosa: Scaly Pholiota
ortinarius alboviolaceus: Silver - violet Cortinarius
ortinarius cinnamomeus: Cinnamon Cortinarius
ortinarius violaceus: Violet Cortinarius
salliota arvensis: Horse Mushroom
salliota campestris: Common Mushroom
salliota silvicola: Sylvan Mushroom
Coprinus comatus: Shaggy Mane
Coprinus micaceus: Glistening Coprinus
Panaeolus solidipes: Solid-stem Panaeolus
Boletus chrysenteron: Red-cracked Boletus
Boletus retipes:. Netted-stem Boletus
Polyporus sulphureus: Sulphur Polypore
Hydnum Caput-ursi: Bear's Head Mushroom
Clavaria aurea: Golden Clavaria
Clavaria cinerea: Ashen Clavaria
Clavaria pistillaris: Indian Club Clavaria
Auricularia auricula-Judea: Jew's Ear
Geaster triplex: Earth Star
Lycoperdon gemmatum: Gemmed Puffball
Lycoperdon pryiforme: Pear-shaped Puffball
Lycoperdon Wrightii: Wright's Puffball
Bovista pila: Ball Bovista
Calvatia caelata: Carved Puffball
Calvatia caelata: Carved Puffball
Cyanthus olla: Bird's-nest Fungus
Morchella angusticeps: Slender-capped Morel
Morchella bispora: Two-spored Morel
Morchella esculenta: Common Morel
Helvella crispa: Flute-stemmed Helvella
Helvella elastica: Smooth-stemmed Helvella
Helvella lacunosa: Black-capped Helvella
Geopyxis craterium: Black Goblet.

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How to Collect and Press Plants

By GEORGE F. LEDINGHAM, Regina

EDITOR'S NOTE: Some members have asked for a series of short informative articles explaining how to begin the study of plants, birds, insects, etc. In response to one of these requests I have prepared a few notes on pressing plants. In this issue, we also have some notes from a series of three lectures given to the Prince Albert Natural History Society by A. O. Aschim o "Collecting Moths and Butterflies As a Hobby," and a short article on "The Amateur Astronomer' by John Hodges of the Regina Astronomical Society. In the September *Blue Jay*, we hope to hav a report of an interview with Maurice Street telling how to become a bird watcher.

Collecting plants means different things to different people. Some people collect plants and grow them in their garden. When this is done on a large scale, we have an arboretum. Other people collect plants for the purpose of pressing them and making a collection of dried specimens. Such a collection arranged in plant families and available for reference or other scientific study is known as a herbarium.

Why don't you make a collection of the plants growing in your district? You will find plant collecting an interesting hobby. You will find, too, that your interest in plants grows as you learn more about them. Dried plants, if properly cared for, will keep indefinitely and if they are correctly identified you will have something really valuable. Many people will want to see your collection, for this is the easiest way for them to learn the correct names of the plants.

The first step is the study of the specimen in the field. Here you must first look around to be sure that there are more than just one plant of this kind growing in the area. Now you can take out your notebook and assign a number to the plant. Describe the plant if you do not know its name and mention any variations that you notice in the plants. It is well to make notes on color for thi scmetimes changes in drying. No record the date and the location. I is important, too, to record the othe plants which are growing in thi spot for plants do tend to grow i recognized associations.

The second step is the collectin Except in the case of trees or shrub where a part of the branch bearin fruit or flowers is sufficient, the en tire plant, including roots, should b taken. If the ground is soft and th plant is an annual, pulling the pla may give sufficient roots. If the pla is a perennial, especially if it sprea by underground rootstocks, or if th ground is hard as it usually is o our open grassy prairies, then trowel or other digging tool must b used to prevent breaking of the plan

The third step is the pressing. O does not need elaborate apparat for this job. Some use big old boo with soft absorbent paper, and you are only collecting a few plan this will do very well for you. Mo collectors use old newspapers; te a standard newspaper sheet in ha and fold it once to give a size of n more than 12 by 18 inches. Sheets newspaper, each containing o specimen, may be separated by blo ting paper or corrugated cardboar This pile of papers and driers mu be weighted down by some flat weig by a stone about 15 pounds on of a board. After 12 hours in the ess the plants should be moved to other dry place in the book or ess. Rapid drying of the plants is portant. The blotters should be parated and dried thoroughly so at they can be used again. Length time in the press and the number changes required will depend on e kind of plant and must be learn- by experience. In humid countries tificial heat is necessary to speed the drying process.

An important step in preparing od specimens is the arranging of e material as it is placed in the ess or while it is still pliant. aves should be placed so that the wer surface of some will show. the plant is very thick and leafy, dicious trimming will have to be ne so that there will not be too uch overlapping of parts; the lower rt of the leaf stalk or branch ould be left to show that some parts ve been removed. If the plant is ore than 16 inches tall it may be nt in a V-shaped or N-shaped anner.

Plant collectors usually take at ast two of each plant they collect. is is because, in addition to making e record and placing a specimen their herbarium, they will want to nd one specimen to an expert to ve the identification verified or ey will want to give the specimen a large herbarium where it can seen and used by many botanists.

Perhaps you hesitate to make a llection of the plants of your area cause you think that you could not entify the plants correctly. This is excuse because your plants will identified free of charge by any tanist with a herbarium. Simply t your collection number and the ta from your field notes with each ecimen, place the plants, each in own newspaper folder, between rdboards, tie them tightly together d mail them to the nearest herbar- m. You should have a duplicate of ch specimen, for the herbarium ill keep the plants sent in as pay- ent for identifying them for you. ou may send plants to the herbaria the University of Saskatchewan Saskatoon or to Regina College Regina.

Plants are usually mounted on od white paper (11½ by 16½ in.). Sometimes the plants are glued or pasted to the mounting paper but in some herbaria the plants are simply held to the paper by thin strips of gummed linen. Each herbarium sheet must have a label which should be about 4½ by 2¾ inches. This label will bear the collection number and the name (both scientific and common). It will give the location and habitat of the collection and may give other details about the environment and tell what other plants were growing in the area. The label will also bear the name of the collector and tell who identified the specimen. You may write or type your own labels, or have them printed for you.

All this may sound like a lot of work but the time spent is worthwhile because as you work with plants you learn more about them. You will learn more than just the names of the plants. You will learn that each kind has a certain range of variations and that each has soil and climate preferences. You will not only be making a contribution to our knowledge of plants but you will be developing a most rewarding hobby.

To learn more about the plants you collect send to Information Service, Department of Agriculture, Ottawa, for your copy of Publication No. 983, "Wild Plants of the Canadian Prairies," by A. C. Budd. Price $1.50.

INVITATION TO VISIT DRYDEN, ONTARIO

Mrs. Laura A. Howe, an enthusiastic member of our society from Dryden, Ontario, writes to say that since Dryden is on the Trans-Canada Highway, with lake and marsh, flora and fauna close at hand, she would be happy to take any of our members on side-jaunts anytime from May to freeze-up. Her phone number is 170, and we hope that some of our members will have the opportunity to take advantage of this attractive invitation.

NOTE: The Museum would like to have a complete set of the original publication: **Spade and Screen.** Any person with extra copies is asked to correspond.

BOYS' AND GIRLS' SECTION

Conducted by JOYCE DEW, Museum Extension Services

Drawing by Johnny Kerelchuk, Age 8, Killaly, Sask.

CONTEST RULES

1. Entries must be first-hand observations in the form of letters, stories, poems, black-and-white sketches, or photographs. Letters and stories should not exceed 500 words.

2. All entries must be accompanied by the name, age, and address of the sender, and the name of his or her school.

3. Entries should be addressed to Boys' and Girls' Section, **Blue Jay,** 2335 Athol St., Regina. The closing date for the next issue of the **Blue Jay** is July 15.

4. This contest is open to any young person. If you send in something good that we feel is of adult level we will print it elsewhere in the **Blue Jay.**

5. Entries from students may be sent in by the teacher or by the students themselves.

6. Teachers who send in entries from their pupils also qualify for a prize. One teacher will be chosen each time from among those who have sent in prize-winning entries from their pupils.

Prizes: Prizes will be donated by the Saskatchewan Natural History Society. Three prizes will be awarded to student entries each issue, provided they are of prize-winning standard. The prize-winners are to select their prize from the following list of books: **The Peterson Field Guide** series (birds, butterflies, mammals, rocks and minerals, trees and shrubs, amphibians and reptiles, ferns, animal tracks), Wherry's **Flower Guide,** Photography for Teenagers, or a year's subscription to **Canadian Nature.**

Note: We should like to expre the **Blue Jay's** thanks to Mrs. Hubbard of Grenfell and J. M. Pro ick of Hazelcliffe who have donat prizes for the contest.

ARE YOU INTERESTED IN COLLECTING PLANTS?

Some boys' and girls' groups, li Mrs. Scoular's Junior Audubon Cl at Penhold, Alberta, are planning pressed and classified flower colle tion for a summer project. If y are interested in collecting plan and learning how to press them, y will find some helpful instructio in an article by the Editor on pa 76. If you would like more inform tion, or want to have plants iden fied, the Editor will be glad to ha you write to him.

Drawing by Dan Pawlivsky, age 10, Square Hill, Sask.

NOTE: The Horned Lark is the first bird arrive in the spring, usually coming the f week in February. The "horns" are bl feathers which the bird frequently eleva when he is singing.

TAMING A COTTONTAIL

by Agnes Dobryoden, age 15,
nford, Manitoba—Prize Winner

ote: We have combined two let-
s which Agnes wrote regarding
tame Cottontail Rabbit. Her first
er suggested that she had made
e interesting observations so we
ed her for further details. Agnes
s us that they have seen Cotton-
Rabbits only recently in the San-
d district. This and similar re-
ts indicate that this animal is be-
found in new locations every
r and is apparently moving north-
rd. We will be interested in hear-
if any of you have seen this rab-
in your locality especially if it
s first seen there only recently.
u will notice by the photo that it
s comparatively short ears and is
wn all the year. These are two
tinguishing features which should
ke it easy to recognize. The Cot-
tail Rabbit, is, as a rule, a dif-
ult animal to tame but Agnes
ems to have been quite successful
doing so. Agnes' letter is as
llows:

"With this letter I am enclosing
photo of "Peter" the rabbit, eating
carrot out of the hand. Carrots
ere not his only food. He also en-
yed eating bread and toast. He
ould eat anything remaining in the
g's pan which would vary from
rridge to soup. Some mornings we
ould be delayed with his treats,
d soon would see Peter peeking
rough the window to see what was
eping us. That would be in win-
r when the snow would reach the
lls. When we would go out and
ll Peter, he would come, no mat-
r where or how far away he might
ave been. Strangely enough, our
g would go chasing jack rabbits
ver the fields all day, but would
ever touch Peter. Often one would
e the two together. When Peter
ould be eating out of the dog's
late, the dog would wait until
eter had had his fill.

"We have noticed Cottontail Rabbits in our district only recently, perhaps in the last three years. These rabbits became fairly common and usually stay near farm buildings. In our yard we saw one adult and six or seven younger ones. Peter was easy to identify when he would come to us because he had a notch in one ear. There were about four other rabbits who would come up to eat after they would see Peter the rabbit come.

"This is how we tamed Peter. As a young rabbit we used to see him now and then about the farm buildings. Whenever we saw him, we would put out some small treats—for example, wheat, meanwhile speaking softly to him and then quietly we would retreat. When we would be off a considerable distance we noticed Peter would aproach the grain and eat. Gradually he became accustomed to our presence and became tamer. Soon we were noticing him near the house. We continued offering him treats and always would always speak softly to him. Soon he became so familiar to us that he would come running to us. Then we tried offering treats from our hand. In a short time he was eating from the hand. One thing we noticed was the fact that once Peter was tamed, the other rabbits seemed to notice no harm was meant and tamed easily. We never picked the rabbits up but when we were feeding them we would pet their fur which was unbelievably soft. Even though the rabbits would eat the odd carrot greens, lettuce, dill, celery, peas and weeds, they didn't do any noticeable damage to the garden."

Photo sent in by Agnes Dobryoden

THE GOPHER

by Herbert Mimrichter,
Age 11, Barthel, Sask.

The gopher dug his little hole
Right beside the telephone pole
He dug and dug with his little claws
They are much smaller than a bear's or a dog's.

I tried to catch him but I could not
He ran so fast—I'm sure he was hot,
It took him a while to dig his hole,
Why he almost dug out that telephone pole!

He has nice matching colors—yellow and black,
And little dark stripes upon his back,
Then in his hole he was at last
I watched this fellow until the day passed.

Oh! When in the morning—guess what I found?
Not a thing but many holes in the ground,
Where had he gone? This little friend
Could he still be digging, digging, without end?

NOTE: The "thing" in the following poem turns out to be a salamander. Persons interested in salamanders and lizards should obtain the following publication now available upon requqest: "Check-list of the Amphibians and Reptiles of Canada and Alaska" by E. B. S. Logier and G. C. Toner, 1955, Contributions of the Royal Ontario Museum of Zoology and Paleontology No. 41.

THE THING

By Edward Hennon, age 10,
Goodwater, Sask.—Prize winner

I was digging one morning
I think in July
When I dug up a lizard
And, "Oh my!" said I.

What is this thing
With the great big head?
I really was scared
And I had to dread
The thought of holding it
Near my head.

So I hit it a good one
With the stick I was holding
The lizard went squirming
And a little bit rolling.

I went to the house
To ask what it was
And when I came back
It was, it was,

A little old salamander
With a great big head,
And a few little beatings
And then it was dead.

I shouldn't have done it,
I know now it was bad,
To kill just a lizard,
My gosh what a lad
I was.

CROW OBSERVATIONS

By James Liggett, age 10,
Moreland, Sask.—Prize winner

One day last summer my friend and I spent the afternoon at a small grove of trees about a quarter of a mile from our house.

The plan for the afternoon was to climb a tree and see if there were eggs in the crow's nest. After trying for some time we resolved to climb a neighboring tree and then swing back to the tree where the nest was. After reaching the tree we were confronted with the problem of getting past a thick growth of branches. Finally, bruised and scratched, I reached the nest.

In the nest there was a newly hatched bird and four eggs. W watched them and then went hom For weeks we watched the bird First the birds got their pluma which was rather scraggly, and the they got their eyes open. Final three weeks after the crows we hatched, I went over one night ar found the birds flying, all exce the oldest one—he had a deform leg.

I took him home where we p him in with a lame chicken nam Charlie. The crow was never real named, but we just fell in wi Blackie. His staple food was bre d milk, and he showed a dislike r eggs. When he began flying he d the rule of the yard.

He would tease the cats, eat the icken's feed and scare them, and hen Dad milked he would sit on the ws' necks.

One day we built a tin tray where e placed his food. When the ickens took his food, he ruffed his feathers and flew—cawing ter the chickens, although he shar- l his food with the sparrows.

When strangers came he would fly them and their car and because is never succeeded in scaring them, flew away and stayed out of ght until they left.

In August, his mother came and ied to persuade him to go away om humans, but he solemnly re- sed. Then one night he got locked with the chickens and got squeez- d and ruffed up. I've never seen a ird show his feelings or converse plainly as he did.

Shortly after this accident he left, lthough he visited us regularly. efore he went south he came back nd cawed until Mom went out and en he circled around the pole and ft. I'm sure he'll come back in the pring.

STRIPED SQUIRREL

y Bonnie Frew, age 15, Pense, Sask.

My personal experience with wild ife was with a striped squirrel more ommonly known as a striped go- her. Although these animals are estructive they can sometimes be amed with a lot of patience.

My first experience with a striped opher happened at my aunt's., She ad several striped gophers on her lace. One became so used to me hat he would not even run; that is, f I did not frighten him by a sudden ove. One day I decided to try an xperiment. I put a marshmallow on long stick and held it out to the triped gopher. At first the striped opher was very cautious but then e began to nibble at the marshmal- ow and then finally to eat it. I did ot have any more experiences with his particular striped gopher because I had to leave for home the next day.

A few years later on our farm we ad another striped gopher that got oo tame as far as the chickens were oncerned. One day our pet red ooster took after the striped gopher and chased him to the gopher hole. It was really funny looking at the rooster with his neck stuck down the gopher hole trying to get the gopher and the way that rooster strutted across the yard when it found out it could not get the striped gopher.

So you see, you can have fun with wild life even though they are supposed to be so destructive.

TWO DETERMINED TREE SWALLOWS

By Janice Bradshaw, age 11,
Saltcoats, Sask.

Last spring we noticed two tree swallows sitting on the muffler of the little tractor which stood near the barn. My dad didn't use this tractor very often because he had a larger one. One day he wanted to go harrowing so he started the little tractor and out of the muffler flew twigs and grass. The tree swallows had started to make their nest in the muffler.

Just as my dad finished harrowing, the tractor ran out of gas so he walked home, leaving the tractor in the field about three quarters of a mile away. About three days later when he went for the tractor, twigs and grass flew out of the muffler again when he started it. He then noticed the swallows around. They must have followed the tractor out to the field.

When the tractor was back in the yard, we noticed the swallows began their work of building their nest in the muffler again. They were so determined to make their home in the muffler that my dad took off the muffler and placed it on the combine nearby. The nest was soon completed and eggs laid in it.

For the rest of the spring season the tractor was used without the muffler.

AN ADVENTURE WITH A GARTER SNAKE

by Ed Andres, age 9, Rosthern, Sask.

One time in a town close to Swift Current a friend of mine and myself found some garter snakes. We played with them for a while. I had one in my hand. My friend put the snake he had around his neck. After we played with them we put them where we found them. They were very friendly.

The Amateur Astronomer

By JOHN HODGES, Regina Astronomical Society

It may be easy to give a general definition of an amateur, but I believe it is more difficult to define an amateur astronomer. Amateur astronomers run the entire gamut from those with equipment equal to that of professional astronomers, to those, like you and me, who have to rely principally on eyesight. Some amateurs become highly excited over each new phenomenon observed and seek elaborate explanations of it; while others just sit back and enjoy the show for what it is. Most of us fall into the latter category.

"How does one start?" is the plea of those people beginning to take an interest in astronomy. This question is difficult to answer without knowing which branch of astronomy interests you most. One thing we all have in common, however—we want to have enjoyment without equipment that is expensive and difficult to operate.

If I were asked to conduct a class in astronomy, I would make the following suggestions. Find a place away from city lights and traffic and with a gentle north slope. Lay down a ground-sheet, or piece of canvas, or heavy brown paper, to form a fairly waterproof insulation between you and the ground. On top, put a folded blanket for padding the hard ground. Next comes you, and on top another blanket to keep you warm. From this vantage point you can see Polaris (North Star) and learn some constellations in relation to it.

You already have an armful of equipment—two blankets and a ground sheet, but this is necessary if you are going to be comfortable and to remain comfortable for a period of time. Two more pieces of equipment will complete your gear—a flashlight and a star map. The flashlight could have its lens covered with red cellophane so that you will not lose your night vision with it turned on.

The star charts present a problem. A set consists of four charts, one for each quarter of the year. You use the one appropriate to the time of the year, and hold it so that the Big Dipper (Ursa Major) is located on the chart in the same position as in the sky you are watching. Then you pick out the other constellations with relation to the Pole Star (Polaris).

There is a good, but inexpensive, book on "Stars" in the Golden Book series, available at the Canada Book and Drug Store in Regina, and the Regina Astronomical Society has charts which the president, Mr. M. Worel, will send out to you to use with it. Since the charts should be kept flat in mailing or packed in a mailing tube, twenty-five cents should be sent with your request, to cover the cost of mailing.

Why the emphasis on locating constellations? To answer this question, let us suppose that a comet is reported as making its appearance in the constellation of Pisces just as the sun sets on April 21. A little study of the chart would show where Pisces would be at sunset. You now have a point of reference for locating objects. It is easier to get around in the sky than in the average town, and there is no traffic problem!

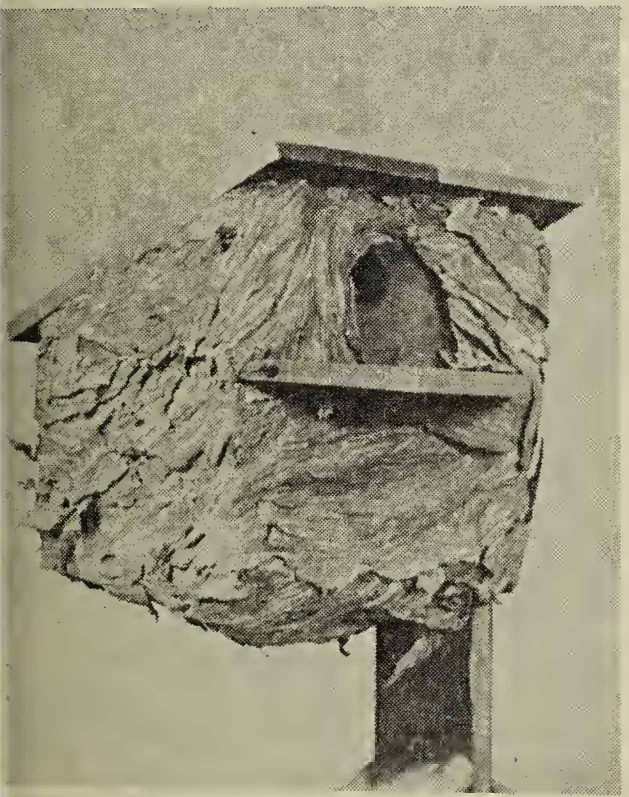
If you own binoculars, of any size or power at all, so much the better. Once you have located a constellation and learned its boundaries, look at it closely with binoculars. You will recognize any planet in the area because planets enlarge with binoculars and stars do not. I must warn you that binoculars need fine focussing for looking at the stars.

If you are interested in astronomy, you can help me in preparing this column for the BLUE JAY. Tell me what you like to read about. A few letters with questions would help immensely. In my answers, I shall try especially to be helpful to the beginner. After all, I am an amateur too and I should like you to get as much enjoyment from this study as I do.

se of a Bird House By a Wasp Colony

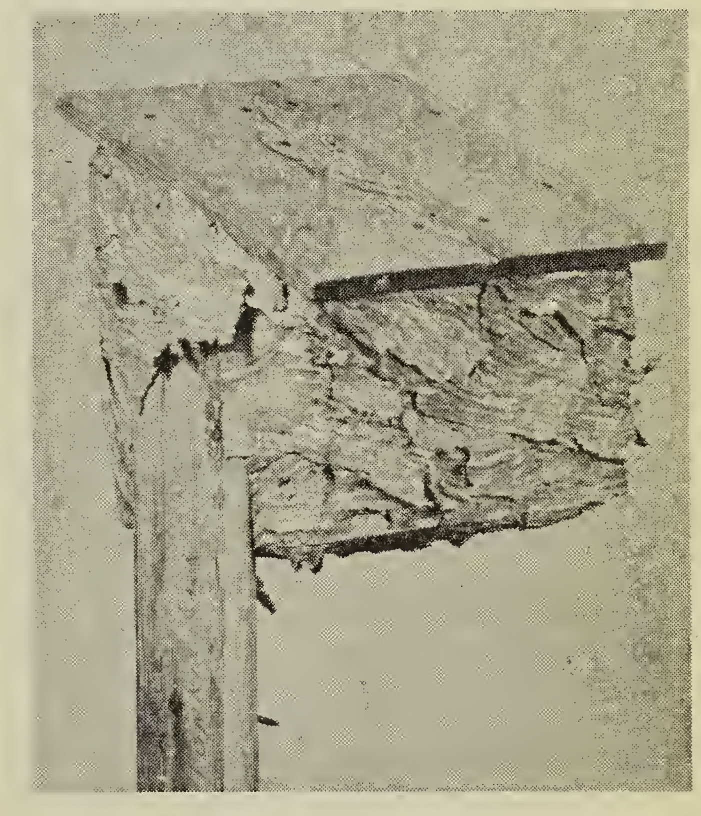
By ROBERT W. NERO, Saskatchewan Museum of Natural History

In the fall of 1953, Mr. Irving arce, of Tonkin, Saskatchewan, ought to the museum a bird house ich had been used as a nest-site a colony of paper-wasps (see otos). The complete utilization ich is evident in this case may be ique and is worth recording. Dr. Bequaert, entomologist and wasp ecialist, formerly with the Harvard useum of Comparative Zoology, mmented on this nest as follows: t illustrates once more how adaptle the nesting instincts of social asps can be, in selecting and coping ith an unforeseen environment. I not aware that a similar case has en recorded before in print, alough other types of abnormal nests social wasps have been described om time to time." (pers. corres.)



Sask. Govt. Photo

en house converted into living quarters by paper-making wasps.



Sask. Govt. Photo

Roof of wren house showing crack sealed with paper.

Mr. Pearce writes that he had put several similar bird-houses to tract wrens. This one had been aced in a maple tree about ten et from the ground and only a w yards from his home. Wrens ere not observed to nest in the box t late in the summer of 1953 it as noticed that wasps had built inle it. "We never molested them and it wasn't very long before they started to covèr the outside. When they had left in the fall we took it down."

Note the extent to which the outside of the unpainted box has been covered with paper (the front edge of the roof measures 7 inches). Ordinarily, of course, these wasps build a nest which is globular. In this instance their instinctive patterns of building have been modified to work on the basis of a cubical structure. The bird house has been almost completely covered with paper on four sides. The bottom is only partly covered around the edges. A seam in the roof has been very nicely sealed by a single layer of paper. In other places the paper is several layers thick. (Seven layers on the back of the box.). The entrance, which is seven-eighths of an inch in diameter, has been surrounded by paper which extends right to the upper left edge of the hole but which is otherwise well back from the hole. Since the wasps build their paper structure in degrees, utilizing bits of more or less decayed wood from different sources, a tree-ring-like pattern of increment is apparent. Paper was added around the entrance hole in a circular manner. The use of this hole indicates another modification of the usual pattern of the nest-site. Ordinarily, the entrance is at the base of the nest. Most of the paper is of the typical gray color but there are a few segments which are rather brightly colored. A bluish - green strand is apparent in two places, and a reddish-brown strand appears in three different places. We might ask Mr. Pearce to hazard a guess as to the source of this colored wood!

The interior of the bird-house was completely utilized for the comb-structure. Ordinarily, wasps begin with a small nest which consists of a single horizontal comb enclosed in a paper envelope. Enlargement of the nest entails tearing down the inner walls of the envelope. Presumably, this took place within the bird house until the limits of its walls were reached, at which point paper was added to the outside of the house. This colony was thus foredoomed to a limited size by its selection of this nest-site.

Dead wasps, found in the interio of the bird-house after carefully removing one section of the roof, wer forwarded in April, 1957, to Mr. C. D F. Miller, Dept. Agric., Ottawa, wh kindly identified them as *Vespul* (*Dolichovespula*) *arenaria* (Fabr. Acocrding to Mr. Miler, this specie is widely distributed througout Nort America in the boreal region and ca be considered as our most commo wasp. These wasps typically build large nest attached to the branch o a bush or tree.

Wasps of another species (*Vespul* *squamosa* (Dru) built a nest in th end of a rolled-up rug suspended i a garage in Florida in Decembe 1952, according to A. N. Tissot an F. A. Robinson (1954. Some unusu insect nests. **The Florida Entomolo gist**, 37: 73-92). This observation an others received considerable atten tion because this species had bee formerly supposed to nest unde ground. Once again, simple observa tions refute published "facts" an point to the need for further stud of our most common insects.

Collecting Moths and Butterflies as a Hobb

Notes from lectures given by A. O. ASCHIM, Prince Albert, to the Prin
Albert Natural History Society

A most rewarding study of nature can be made through collecting moths and butterflies, either as a scientific pursuit or as a simple hobby with a large number of possibilities. This hobby is open to the young and the old, the rich and the poor, the expert and the novice. It is so flexible that it can be a mere pastime, or as serious a study as one wishes to make it. It can be related to other studies of nature, and the moths and butterflies themselves are so numerous and varied, that this hobby is practically unlimited in scope.

The height of a collector's ambition would probably be a scientific collection, correctly classified, neatly mounted and stored. However, this hobby has other interesting facets. Showy specimens mounted under glass make beautiful mounts for home display and for gifts or exchanges. They are also acceptable in serving trays, ashtrays, brooches, ear-rings, etc. The wings of mot and butterflies may be used to ma artistic designs. You can collect spec mens for photographic purposes a make beautiful transparencies with 35 mm. camera.

COLLECTING APPARATUS

Collecting nets may be purchas or made at home. It is useful to ha two or three sizes, including a lar net with a fourteen inch hoop and bag about thirty inches long. T handle should be of light, stro wood, not heavier than a broom ha dle. The net itself should be funn shaped but sewn across the bott about four inches from the apex that the insect can be retrieved wit out injury. One should also have twelve inch net, and for some pu poses an eight inch net. The leng of the bags will be slightly over tw the width of the hoop.

Leno is suitable for the net, pr vided a cotton border is sewn arou

top to take the wear from the
al hoop. The hoop should be made
n steel wire slightly heavier than
wire. The net should be light,
l balanced and strong.

he best collecting jars are made
n wide-mouth pickle jars, etc.,
ch are not too large and awkward
andle. For large moths and but-
lies, place in the jar three lumps
cyanide of potassium, covering
packed sawdust and a layer of
roximately three-eighths of an
of plaster of paris of the con-
ency of cream poured over it and
mitted to set. The cover should
left off till the surplus moisture
evaporated. Since this creates a
onous gas, the work should be
e out of doors. Cyanide of potas-
n should not be handled with-
gloves. Three collecting jars are
ful, one with three lumps, one
h two, and one with one. A small
tle of chloroform can be useful in
ing large moths in the net but
procedure results in very rigid
cimens and makes for more diffi-
mounting.

field box should be taken on all
ecting trips. When they are to be
in this box, the specimens will
"papered," i.e. have their wings
led up over the back. They might
n be put separately into small
envelopes, with a note on each
elope stating the species, sex,
e, locality and collector, in case
specimen is not handled again
il months later.

apered specimens may be loosen-
up and mounted at a later date by
ting them in a humidifying jar
r night and then mounting them
if they were freshly caught. Be
cful to avoid mould.

nsect pins of two or three sizes
necessary for mounting insects.
y have to be purchased from en-
ological supply companies. Fine,
dium and large pins will be need-
depending upon the size of in-
ts be mounted. A supply of "set-
" blocks and boards should be
de with a groove into which the
y of the insect may drop when
wings are being dried on the
ck. Pieces of glass may be used
setting boards to hold the wings
hape for drying. One straight and
bent "setting" needle simplifies
work of mounting specimens.

The hind margin of the front wings should be at right angles to the body. The rear wings should be pulled forward and underneath to the natural position. A "drying" box will hasten the drying of specimens providing it is made to permit artificial heat to enter, but specimens will dry sufficiently well on the blocks or boards without a drying box if given time. Storage cases, cabinets and drawers for perserving collections are very important, but cannot be described in detail in this synopsis.

HOW TO CAPTURE

The net is the customary method of collecting most moths and butterflies on the wing and its proper use can only be learned through practice. Awkward manipulation of the net will give disastrous results but with practice one gets the "feel" of the net and comes to handle it quite gracefully.

The second important method of collecting adults is by the use of baits, commonly known as "sugaring." Many different mixtures are used, but in order for the bait to be effective, it must contain enough alcohol to make the specimens sufficiently stupid to be captured; otherwise, they will very easily escape from the bait. Moths respond extremely well to sugaring.

Collectors who wish to do so may collect the eggs and caterpillars and raise them to the adult stage in rearing cages. The eggs of butterflies and moths are beautiful, multi-shaped and multi-colored. They are laid singly or in groups upon the plant food of the caterpillar and may be found by looking for them there or by capturing a female that is laying eggs. The plant food is very important and its supply must be available for the caterpillar to reach pupa or chrysalid stage. The eggs should be placed in glass cages and the caterpillars removed to screened cages once they are large enough not to crawl through the meshes of the screen. Cages for the caterpillars of moths should have a few inches of earth with a few leaves, etc., in the cage. Caterpillars raised from eggs require no special attention except feeding, but caterpillars captured out of doors should be put in a separate cage and examined frequently to make certain they have not been attacked by a parasite. Should any parasite eggs or other signs of infestation be noted on the caterpillar, it should be destroyed immediately as the parasitic flies will hatch and destroy your other caterpillars. Another way of obtaining comparatively "sound" caterpillars is by "beating." This method is best done by spreading a blanket or tarpaulin under individual trees, and either shaking or hitting the tree to jolt loose any caterpillars feeding upon the leaves. The best trees for this type of collecting are birch, maple, willow and poplar. A note should be made at the time of the species of tree, that all caterpillars collected fro birch trees can be fed birch leave and so on.

Caterpillars which have not d veloped into pupae by freeze- should be stored outside until the fc lowing season when their natur food may be gathered. Pupae, cocoons or otherwise, may be le outside to await their natural "hatc ing" season or brought into the hou which will hasten the emergence as much as three months. Usua this method of collecting permits t capture of the adult specimen wh still in a perfect condition.

YOU WERE ASKING?

Question: What is the proper name for our white-footed, white-bellied mouse? Mrs. D. Sutton, Rocanville.

Answer: Mice of the genus **Peromyscus** have relatively long tails, large erect ears, large eyes, a gray to reddish-brown color above and white underparts, including the feet. There are two species in Saskatchewan: *Peromyscus leucopus* and *Peromyscus maniculatus*. The latter is sometimes called the Deer Mouse (e.g., Burt and Grossenherder, 1952, **A Field Guide to the Mammals**), but Anderson (1946, **Catalogue of Canadian Recent Mammals**) places both species under the common name: White-footed Mouse. Since it is difficult to distinguish these two species and since they both have white feet, this practice seems reasonable. According to Anderson, two subspecies of *maniculatus* occur here, one in northern Saskatchewan and one in the south central region. *Peromyscus leucopus* is represented in the far southwest. Most of our "White-footed Mice" are therefore *Peromyscus maniculatus*.—R.W.N.

Question: What is the best way to prepare a bird to send it in to the museum for identification or as a donation?

Answer: In order to arrive in condition suitable for permanent perservation birds (as well as most animals) should either be sent frozen and packed with "dry ice", pickled in a preserving fluid such as alcohol or formaldehyde, skinned and salted, or skinned and stuffed. Specific dir tions may be obtained from an cellent book available for fifty cer Anderson, R.M. 1948. **Methods of c lecting and preserving vertebr animals.** National Museum of Cana Ottawa.—R.W.N.

Question: What about band birds? Our locality is parkland tracting a great many species of ne ing birds. My work as a farmer rancher leads to the discovery many nests and the opportunity band lots of birds. I have had a long interest in nature study would find this very interestin Lloyd M. Lohr, Erskine, Alta.

Answer: Banding permits are sued by the Canadian Wildlife S vice in co-operation with the Uni States Fish and Wildlife Service. information write to the Canac Wildlife Service, Department Northern Affairs and Natural sources, Ottawa.—R.W.N.

MAMMAL NOTE:

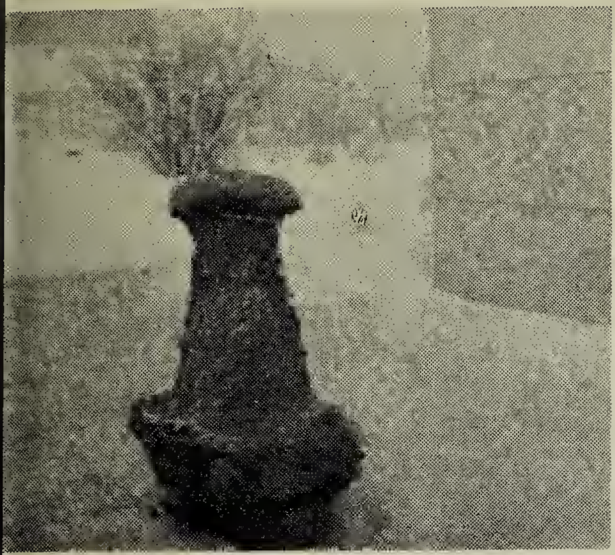
The following reports of Sil haired Bats have been received s the publication of the distribu study in the previous issue of **Blue Jay**, (15:38-41, 46):

Record—August or September, 1950, rt- lach, in garage. John Hudson.
Record—Fall, about 1954, Prince Alber Brooman.
Specisen—Fall of 1952, Weekes, in log Ronald Hooper. (In personal collect
Specimen—August, 1955, Raymore, in ment. James Luthie. (In personal lection.)

—R.

Spade and Screen

By FRED ROBINSON, Regina



1e above photograph was sent to
y George Dunmire of Gull Lake,
atchewan. At first glance it ap-
s to be a giant pestle, but it is
ally a natural formation eroded
1 grey granite by the action of
1 and water. These natural for-
cns are very interesting and a
sure to collect. This one is 13
es high and the stone weighs 40
1ds. Both ends of the rock being
1tly harder than the centre, they
withstood the erosion forces.

1is rock was dug out of a creek
seven miles east of Gull Lake.
k banks and beds or lake shores
us a large quantity of these odd
1ations. No end of "images" can
ound, but they must not be con-
d with Stone Age artifacts. They
oly belong in an exhibit of inter-
1g geological specimens.

ONE PROJECTILE POINTS

By BOYD WETTLAUFER,
San Lobosco, California

one projectile points seem to be
distributed over the North Am-
an Continent, as they have been
1d in excavations in Tennessee,
tucky, Missouri, Maine, Nova
tia, Quebec, Ontario, Saskatche-
and many other places, as well
mong Eskimo artifacts in the far
h. They belong to the polished
1e Age as they are seldom found
w the six foot level, and are
1d in greatest profusion within
and a half feet of the surface.

one projectile points vary in
gth from one and a half inches
ix inches, with an average length
hree to three and one half inches. They are usually made of solid strips of the walls of large bones. The bone is split and a section having a sharp corner is taken. This section is so worked into form that its cross section at mid-point is nearly triangular. The interior surface of the bone remains as a longitudinal groove. However, in isolated cases, this groove may be worked out thus giving an oval cross section. It is to be noted that these points all have one heavy end sloping steeply to a well-sharpened point. The other end tapers to a crude, unfinished point or wedge. The sharpening of the point in some specimens appears to be a distinct operation following the process of shaping, and it is quite possible that many points may have been resharpened. A few are hardened on the point by fire but whether intentionally or unintentionally is not known.

Although many of these points may have been used in the conventional arrow, Dr. E. E. Tyzzer, of Harvard University Medical School, in a paper on bone projectile points from Shell Mounds along the North Atlantic Seaboard, suggests that these points were set in the end of a hollow cane shaft, to be thrown with an Atlatl (throwing stick used at one time from Panama to the Arctic). Thus set in a socket of proper size, it would need no other attachment and when the shaft struck its target, would be driven in, large end first. It would thus tend to remain in the wound, even after the shaft of the projectile fell off, or was withdrawn.

As many of these bone artifacts have been found in mounds and among the middens left by Mandan Indians of the Missouri River basin, it is very likely that they may be found generally in prairie excavations, or even on fields where much bone is in evidence.

CORRECTION

In the last paragraph of our story on Mr. A. J. Hudson we said that "the best method of studying archaeology is by use of the spade and screen." This should have read, "the **most interesting** method."

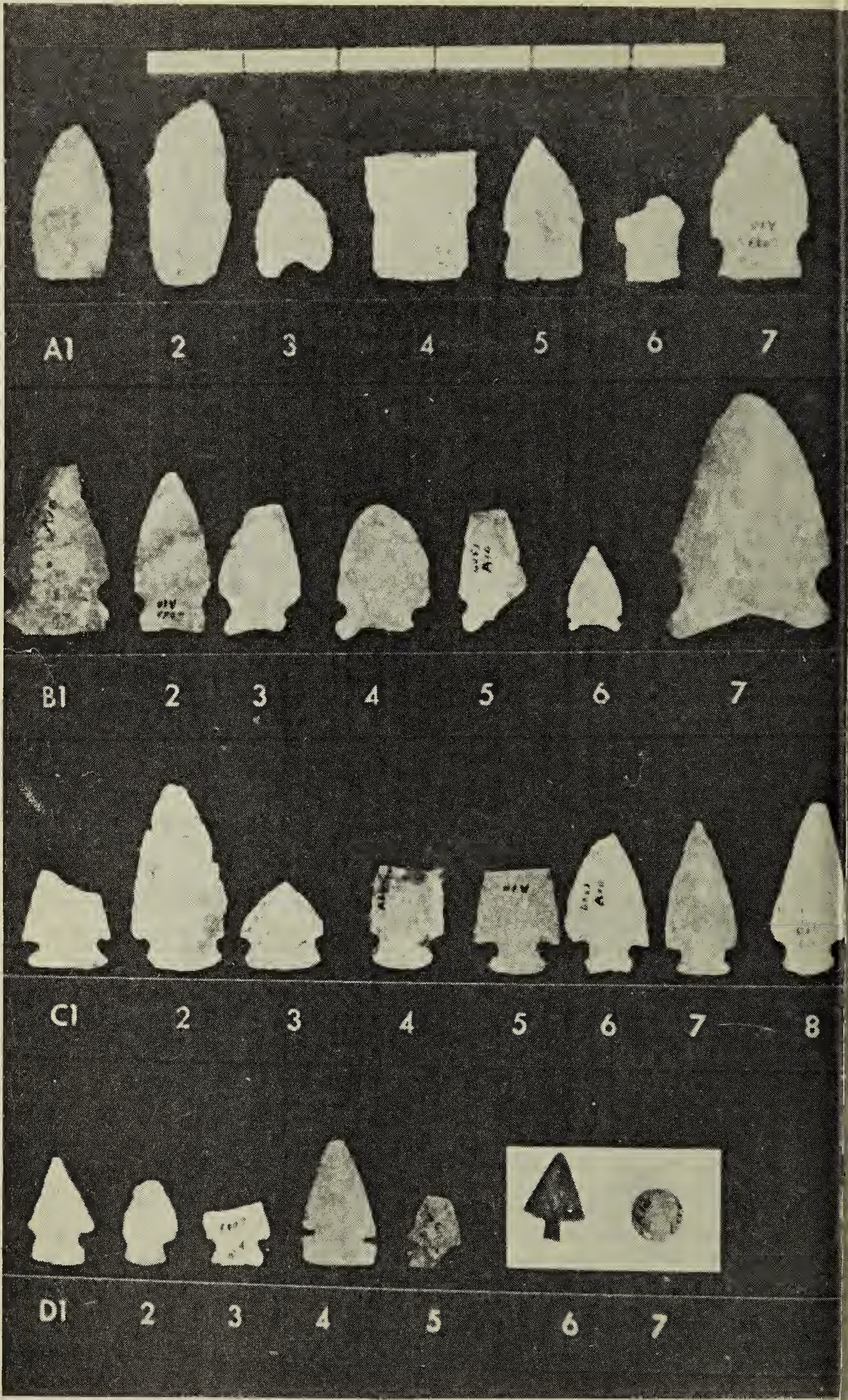


Photo by R. F

Part of the surface collection from Melfort donated to Museum by Dennis and Larry Klein. Note six-inch ruler.

A Surface Collection From the Klein Site at Melfort

By ROBERT W. NERO
Saskatchewan Museum of Natural History

he scientific excavation of arch- logical sites, as exemplified by the rtlach Site report (Wettlaufer, 5, The Mortlach Site, Dept. of . Resources, Regina. 113 pp.*), l provide us with a wealth of in- mation about past peoples of Sask- hewan. The introduction of the ntific method in excavations in s area, with its emphasis on pain- king methods of study, need not, vever, deter individuals with little ining or time from contributing the unfolding of the remarkable ma of human history which we witnessing. One of the most fruit- archaeological tasks for which persons qualify is the collection of terial found on the surface of the und. That this material has a real l significant value is indicated by statement by Will and Hecker 44. Upper Missouri River Valley original Culture in North Dakota, *D. Hist. Quart.*, 11:117) that their ective was to ". . . locate and list many village sites in this area, ore their surfaces have become ther obliterated by cultivation or sion and to preserve samples of sherds and other artifacts from h individual site." Surface mat- al, especially pottery and bone, is nstantly undergoing deterioration ough exposure and through mani- lation by machinery. The need for recovery of this material is far re pressing than for the excava- n of that which lies deeply inter- l in the earth.

Surface finds occur as the result exposure of the subsoil through nd and water erosion, farming actices and other human activities volving movement of soil, e.g. ad-building or grading, sand and avel excavation, etc. The one thing ich most surface archaeological aterials have in common is a lack relative position within the soil, ., whatever stratigraphy existed, s been lost. Consequently, in most stances surface collections repre- nt a mixture of cultures. Some- nes it is possible to determine on e basis of similarities of shape and slight shoulder; A7 broad side-notch- substance that surface finds represent a single culture. Nevertheless, even where this is not so, surface material supplies valuable data on the geographic distribution of particular cultures. Wettlaufer stated: "Not only does this material reveal the location of archaeological sites but it is an important and necessary factor in plotting the distribution of any group of people over the province in prehistoric times." (1951. An archaeological survey of Saskatchewan No. 1, unpublished).

A surface collection recently donated to the Saskatchewan Museum of Natural History by Dennis and Larry Klein of Melfort, Saskatchewan may be used as a demonstration. The collection received by the museum consists of: 4 fully grooved hammers or mauls; 5 notched slab "hoes"; 35 projectile points; 8 projectile point fragments; 6 scrapers; 8 flake knives; 17 ovate blades; 1 musket ball; 1 brass projectile point; 1 large iron knife (Hudson Bay trade); 90 flint flakes.

All of this material was reported to have been found on the surface of a field on the edge of Stony Creek near Melfort, Sask. E½ 24, 46, 19, W2nd), by Mr. Erwin L. Klein and sons, Dennis and Larry. A series of projectile points, etc., from this collection may be seen in the photo. They have been arranged in a sequence based on their form, with some older types in the upper row and some more recent material in the lower row. The sequence of material in between does *not* indicate any known cultural relationship. Note the variety of point shapes. Generally speaking, these points may be classified as follows (using purely descriptive terminology): A1, 2 lanceolate; A3 indented base, stemless; A4, 5, 6 parallel-sided stemmed, ed; B1 to 7 side-notched, some with concave base; C1 to 8 corner-notched or stemmed; D1 to 3 variant side- and corner-notched; D4, 5 notched triangular; D6 brass point; D7 lead musket ball.

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* Copies of *The Mortlach Site* may be obtained on request from the Saskatchewan Museum of Natural History.

This variety of projectile points clearly indicates that a number of different peoples occupied the site. presumably over a long period of time. Some of the points illustrated are so distinctive as to be diagnostic of particular "cultures." For example, A1 and 2 resemble types of points which have been found at a number of "Archaic" sites in the eastern United States; A4 matches "Yuma" or specifically "Scottsbluff Points," again, an "early man" type of artifact. Points C1 to 8 look very much like the "Pelican Lake" points shown by Wettlaufer (1955. The Mortlach Site, p. 107) and D4 and 5 have much in common with his "Prairie Side-notched" (p. 22).

The brass point, D6, represents the historic period, as does the lead musket ball. It would seem, then, on the basis of this collection of artifacts, that this site has been occupied by man from the very early period to late historic times. The discovery of this variety of points at a site on the very edge of the forested area of the province is exciting news and extends our knowledge of the distribution of prehistoric Plains cultures. This material points further to a need for archaeological surveys in the north as well as in the south.

A further utilization of surface material is obtained by inspection of
the stone material involved. At
excavated Mortlach Site, 272 ou f
1606 flakes (or 16 per cent) f
all levels were brown flint (K e
River type) or "chalcedony." At e
Klein site the stone used is ma y
a kind of chert, chalcedony being
presented only by one scraper, e
ovate blade and two flakes, a n e
three per cent of the chipped s e
artifacts and flakes which were
lected. This difference in the us of
a particular material is prob y
based on availability, the prin y
source of this flint being in N h
Dakota. A simple distribution p
of the percentages of this kin of
flint in collections throughout e
province would be of particular n-
terest. Thus, some evidence of ne
use and distribution of stone ma r-
ials might be gained. Distribu on
studies of material of specific nd
limited origin as well as of type i-
facts would be extremely useful nd
could be done on the basis of r-
face materials alone.

There is undoubtedly a consi r-
able amount of information w ch
might be obtained on the basi of
collections already made by in r-
ested individuals throughout ne
province. To the extent that nis
material is made available for s dy
our knowledge of the distributio of
prehistoric peoples in this prov ce
will be greatly advanced. With a f-
ficient number of collections suc as
the one described above, it w ld
be possible even now to draw n ny
conclusions regarding the histor of
past cultures.

Complementary Roles of the Professional and Amateur Archaeologist

An abstract by R. W. Nero of William A. Ritchie's article "Each to the Other" publis in *American Antiquity*, 22:169-170, 1956, as No. 1 in a series of articles on the role of th ro- fessional and amateur archaeologist.

". . . the growth of interest in prehistoric man within the population as a whole . . . seems to reflect an intellectual curiosity which may temper in some measure the predominantly technological and commercial bent of our civilization. A large supporting public interest, furthermore, serves to sustain the professional archaeologist in his investigations . . . .

"But there is an inherent grave
danger here, too, for this surg of
interest and activity on the pa of
ever increasing numbers of pe ple,
imposes a threat of early destru ion
of the limited, precious, and ten
unique sources of our data of re-
history.

"It must be obvious to all tha . .
means of mutually supporting be-
havior between amateur and ro-
fessional workers must be found ex-
plored together and agreed upo In

rt, they must 'plight their troth
h to the other,' in a union of
ds and hands. This could well be
ajor aim of local and state arch-
logical societies . . .
There is much need for the ama-
r in the search for the means of
aining a broader and deeper per-
ctive of man's past achievements
which rests his potential growth
. The amateur can participate in
quest fruitfully and with im-
nse self-satisfaction; his rewards
e far transcend the possession of
ollection of mute relics. When
e he senses the *pursuit of problem*
mind will kindle to new and ex-
ng adventures beyond the ordin-
thrill of collecting. He can have
holiday with its relaxation, an-
pation, and thrill of discovery
hich, incidentally, forms a part of
reward of the professional dig-
as well), but he can add to these
ards the mental stimulus and
isfaction of contributing to the un-
ing drama of human develop-
nt.
The means to this larger end are
be found in an approach to arch-
logy which is problem-centered
her than relic-centered. The prob-
s are many and adverse. They are
t known to the professional who
given years of hard work, hard
ught (and hard cash) in prepar-
n for the execution of his job.
and the amateur can pool their
rts with mutual advantages. He
offer aid not alone in formulat-
problems for research, but in
procedure of recovery and re-
ding that must be observed for
useful interpretations, which constitute the intrinsic value of all such work. A collection of measurements is not enough to reach this end in digging a site, as too many amateurs have assumed. Nor is a collection of artifacts sufficient. Only painstaking attention to soil details, associations of features and objects, animal and plant remains (including charcoal for radiocarbon dating), post-mold patterns, human skeletal remains, and numerous other items, will yield the harvest of information to be found variably on every site.

"All sites are of course not equally significant. On some, especially after a preliminary appraisal with professional guidance, the amateur can proceed quite successfully. There are others—certain burial sites and stratified habitation sites—for example, where his competence, due to lack of training, is usually insufficient to prevent tragic loss of data.

"If an amateur calls thus upon the services of his professional colleague for appraisal, advice and actual assistance, does he thereby lose his site or his discoveries? By no means . . . As said before, the professional has better resources to appraise and interpret; he can often use, with proper credit, the information so obtained from the amateur in his published records, and he can encourage and guide his amateur co-worker to observe, record, interpret and publish on his own. Herein, lie the larger rewards for both."

NOTE: Copies of complete text available upon request from Sask. Museum of Natural History, Regina.

Summer Meeting at the Cypress Hills, June 15-16, 1957

All members of the society, their families and friends are cordially invited to attend the Summer Meeting at the Cypress Hills. Headquarters of the meet will be the Government Lodge in the Park. Registration: adults—50c, children free.

TENTATIVE PROGRAMME

SATURDAY: Sunrise to 9 a.m. Free Time (e.g. early morning birding and fishing).

9 a.m. to 12 noon. Excursion to Bald Butte. Introduction to Cypress Hills, emphasizing geology and botany. Party led by Mann. Botany comments by Budd and Ledingham. Lunch upon return at 12 noon.

1:30 to 6:00 p.m. Trip to the West Block to see Trumpeter Swans, Conglomerate Cliffs and scenery. Fort Walsh optional. Supper upon return at 6:30.

7:30 to 8:30 p.m. Evening programme at Camp Shagabec Hall: reports from President and Editor, illustrated talk by Bruce McCorquodale on the fossil mammals of the Cypress Hills. Followed by Campfire and social at 9:00 p.m.

SUNDAY: Sunrise to 8:00 (breakfast)—Free time.

9:00 a.m. Local bird trips in small groups by auto and on foot, with leaders—Fyfe, Bard, Mann, Callin, Nero, Lahrman. Dinner upon return at 1:00.

Those who cannot be present for the full programme are urged to come for at least one day. Others who have more time to spend may be interested in additional trips in this area. For example: (1) Visit to a Kangaroo Rat colony—one mile south of No. 1 at Piapot, or, one mile north at Webb; (2) Visit to a Prairie Dog town at Val Marie; (3) Visit to Sage Grouse country; (4) Visit to Fort Walsh. Particulars at the Park. **For reservations, Write or Phone: The Manager, Cypress Hills Prov. Park, Maple Creek**

The Blue Jay Bookshelf

THE CROW'S SONG

By FRANK BRAZIER, Regina

To the average person a crow will sing when the moon is blue—both are most unlikely events. When I first read the phrase "the crow's song," I scoffed, then stared, then carefully reread the paragraph. There was no doubt about it, the author was serious. When he wrote "song" he meant song in its strictest sense; as Webster has it, "that which is sung or uttered with musical modulations of the voice."

I was reading that pleasant collection of essays, **The House on Nauset Marsh** by Wyman Richardson, M.D., and had acquired an immense respect for the powers of observation he displayed, when I reached this shocker:

"Of all the bird songs, perhaps the crow's song is the most definitely an act of wooing. So shy is he, however, that few people have ever heard him perform. I have talked with experienced field ornithologists who had never heard the crow's song, and who, when I spoke of it, looked at me with disbelieving eyes. I myself have heard it only very rarely.

One day my cousin and I were lazily paddling down the Ipswich River. There came from downstream that curious, staccato note of the crow which resembles the rapid plucking of a taut string. Over and over he repeated it.

"Keep quiet," my cousin whispered. "Maybe he'll sing for us."

"We drifted slowly downstream, making no motion and no sound. And then, just as we came around a bend, the crow began to sing. He and his lady love were sitting near the top of a high pine and from his wide open beak were coming a series of clear, bell-like notes. Musical and sweet, they were as different from the crow's normal voice as anything could be. Suddenly the singer caught sight of us, and, with a series of protesting caws which seemed to contain a definite element of reproach, both crows flew off out of sight. Since then, only once have I heard the crow's love song."

Here is a challenge for us. We live among swarms of crows, so many in fact that there is a bounty on their legs. We at THE BLUE J. would be interested to learn if ar one else has heard the crow's so Please write, giving whatever det you can of any similar experien I have come across no similar ref ence in anything I have read bef on crow behaviour.

Before leaving crows, I quote (more paragraph of immense inter Writing about the Great Horned O Richardson says: "He takes cro too, and while I happen to l crows (but not to eat), I know t they are not always welcome. Cro destroy duck eggs, and the Big C does more to control the crow po lation than does man with all gadgets."

Dr. Richardson has written a f book, a collection of easily-flow essays of outdoor life near Cape C It is sad to learn that he died 1953. The Marsh must miss him.

THE HOUSE ON NAUSET MARSH, Wyman Richardson, illustrated by H. Kane. New York, W. W. Norton and 1947 (Reprinted 1955).

A GUIDE TO THE MOSQUIT LARVAE OF WESTERN CANA

By J. G. REMPEL

Canadian Journal of Research D, 28:207- 1950

THE MOSQUITOES OF SASKATCHEWAN

By J. G. REMPEL

Canadian Journal of Zoollogy 31: 433 1953

These companion papers pro illustrated keys to the larvae adults of Saskatchewan mosquit The emphasis in both papers been on illustration, and only b descriptions and notes on distribu have been included.

The first paper presents keys 6 genera and 46 species known occur in the four western provi of Canada. To facilitate identifica characters used in the keys are f illustrated.

The second paper has keys t genera (*Aedes, Culex, Culiseta, A pheles, Mansonia, Psorophora,* *Wyeomyia*) and 37 species. As in previous paper, all important ta omic characters are illustrated. addition, brief sections are devote the topography, climate, and veg

Continued on Inside Back Cove

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NOTICE TO MEMBERS

This is the new, enlarged BLUE JAY. Since it is much more expensive to nt a magazine of this size, we cannot afford to continue to do so without enlarged membership. Help us to get new members by passing on the ached membership blank to someone who might be interested. A larger culation reduces the cost of the BLUE JAY proportionately. We send BLUE YS to every province in Canada, to most of the states in the United States, South America, New Zealand, England and continental Europe. We should e to continue to expand.

MEMBERSHIPS

All persons interested in any aspect of nature are invited to join the skatchewan Natural History Society. Membership dues per calendar year : Sustaining, $5.00; Regular $1.00. **The BLUE JAY** is sent without charge all members not in arrears for dues. Send your membership to the Treaser, Elmer L. Fox, 1053 Gladmer Park, Regina, Sask., Canada.

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MOSQUITOES (Continued)

on of Saskatchewan; to mosquito aptation to survival; and to relaon of mosquitoes to Western Equine cephalomyelitis.

Identification of adult mosquitoes -not an easy task because useful aracters for separation are few, d are usually lost in badly rubbed ecimens. Fortunately the larvae are more easily identified. Dr. Rempel's key to the larvae will thus be useful to anyone with limited experience in taxonomy, while the keys to the adults will most benefit those with a wider experience in taxonomic work. —Harvey Beck, Saskatoon.

Reprints of these papers may be obtained from the Biology Department, University of Saskatchewan, Saskatoon, Sask.

Univeristy of Alta.
Rutherford Library,
Edmonton, Alta.

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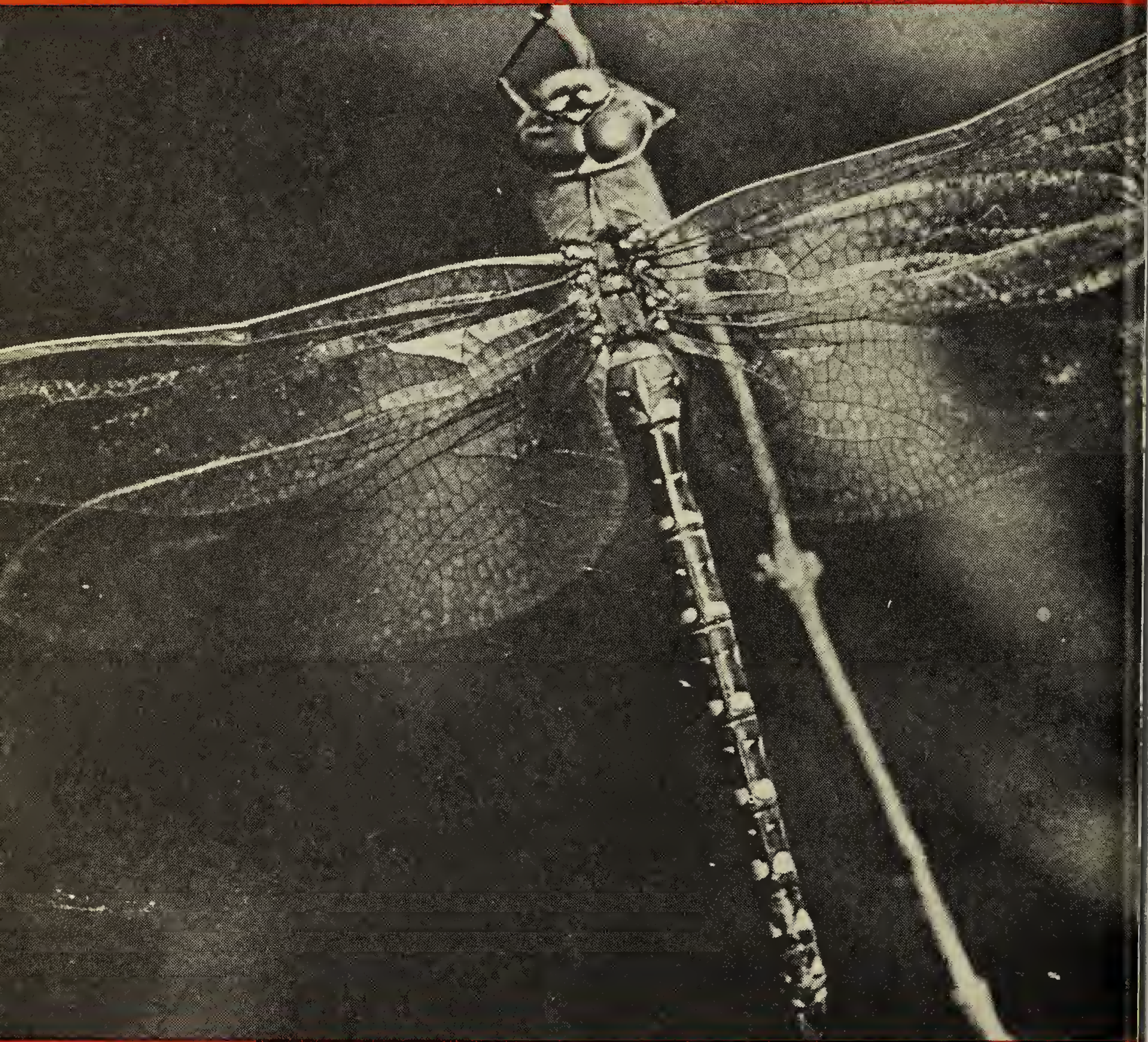

AESCHNA DRAGON-FLY *Photo by W. Yanchin*

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